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THE MODERN CONCEPTION OF GUTENBERG

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IN an age when the compass began to widen the horizons, when trade and commerce sought to satisfy the needs of fast growing populations and cities were teeming with the activities of artisans and craftsmen, when intellectual life was re-awakened through the Renaissance and the desire for general education found expression in the work of the great universities of Italy and France — in such an age the exasperating slowness of book production by the scribes must have been felt deeply.

There is no doubt whatever that early in the fifteenth century many minds were groping for a mechanized form of writing. A method of printing already existed: the old Chinese manner of block printing, satisfactory for many needs but limited by the inflexibility of the wood block. The method was suitable as long as the emphasis was on pictorial renderings, which were understandable even to the illiterate; but the characters, laboriously cut in the block, served only the purpose of that one text where they occurred.

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In spite of the technical difficulty of cutting the spiky Gothic style characters in wood, craftsmen of the early fifteenth century progressed from simple captions or brief paragraphs to whole text pages, for such standardized texts as Latin school grammars (*Donatuses*)² and essays of limited extent. Such block-printed pamphlets could be produced cheaply and quickly, after the initial labor of cutting, and thus filled the most pressing need of schools, at least temporarily. Yet a mere glance at a well-written manuscript of the period must have revealed to anyone the crudity of the method, tolerable only because of its cheapness. If typographic printing was so late in making its appearance, it is partly due to the extremely high standards of fine manuscript book writing that had been developed by the scribes. Mechanization, so highly desirable, must have seemed unattainable in the face of the many refinements indulged in by the calligraphers of the time. How much these refinements were valued is shown by the fact that even a hundred years after the first examples of printing had left the press, patrons of the arts and the sciences continued to collect manuscript books in preference to what they considered crude mechanizations. The Medici, for instance, are known to have barred printed books from their library.

The thought that the alphabetic system of writing, which is based on sequence of single characters, might be susceptible to some form of mechanization must have occurred to many a man, although the scribes had obscured the system by their mannerisms of contractions, abbreviations and special characters, and the formalities of alignment, close spacing and columnar arrangement. We find evidence of mechanization in the early use of stencils in various ways,³ in the use of letter punches by seal makers and die cutters, and in the employment of letter stamps by book-

² Aelius Donatus, Roman grammarian and teacher of rhetoric, lived in the fourth century; he was the tutor of St. Jerome.

³ Schreiber. *Vorstufen der Typographie*. In *Festschrift . . . der Stadt Mainz*, 1900 (edited by Hartwig).

binders as early as 1435.⁴ We have furthermore the Avignon Documents of 1444, relating to one Waldfoghel's attempts at "artificial writing" (*ars artificialiter scribendi*),⁵ at a time, however, when a practical solution of the problem by means of typographic printing had already been found elsewhere. Whether Waldfoghel's unsuccessful attempts were an echo of earlier experiments by Gutenberg, and whether Waldfoghel had had any connection with Strasbourg at all — which seems possible⁶ — cannot be determined definitely.

While the soil was ready, before the middle of the fifteenth century, for the invention of printing, one cannot say that the invention "was in the air" and that it needed only a flash of inspiration, or of good luck, to bring it into being. That would belittle the labors of at least two men: one who was on the right track with his idea but who met an insurmountable technical obstacle — the unknown early Dutch printer, and one who carried the idea through to mechanical perfection — JOHANN GUTENBERG.

The existence of a large number of undated, crudely printed fragments of undeniably Dutch origin⁷ has confused the question as to the inventor for a long time. Bibliographers of the past, noting the absence of positive proof in favor of Gutenberg, have expanded a local tradition of Haarlem into a legend and have created a vast controversial literature.

Was Gutenberg really the inventor of typographic printing?

Laymen and scholars alike have asked this question many times in the last four hundred years. In fact, within fifty years of the completion of the great Bible to which we attach the name

⁴ Falk. *Der Stempeldruck vor Gutenberg*, *ibidem*; also Bruun. *De nyeste Undersøgelser om Bogtrykkerkunstens Opfindelse*. Kjöbenhavn, 1889.

⁵ Requin. *Origine de l'Imprimerie en France (1444)*. Paris, 1891.

⁶ Liebenau. *Überblick über die Geschichte der Buchdruckerei der Stadt Luzern*. Luzern, 1900.

⁷ The most complete description, with excellent facsimiles, is found in Zedler's *Von Coster zu Gutenberg*, Leipzig, 1921.

of Gutenberg with some justification,⁸ the name of the person who had created it had been forgotten, and in its stead remained a mystery associated in the public mind with either witchcraft or miracle, according to viewpoint.

It must seem strange that the work of the inventor, even his very name, received such scant attention from contemporaries and generations immediately following, while chroniclers related to posterity the most insignificant happenings, and that, when the question as to the inventor, the time and the place began to be asked, no exact answer could be given. In the absence of definite data legends grew up quite early, and an uncritical age repeated them with gusto. Fairy tales, we all know, satisfy the credulous child; they are so much pleasanter than reality and are more impressive through decoration. It is not so long ago that adults were treated to fairy tales by historians. Witness the story of the 365 children of the Countess of Loosduinen, presented by Hadrianus Junius in his *Batavia*, a history of Holland, printed in 1588. This learned man, a physician, seems to have believed in this miraculous event for he offers to his readers as proof the existence of the very gravestone with the inscription seen by him. Legend has it that the Countess was told by a gypsy that she would have as many children as the year has days. The simple fact is that this happened two days before the end of the year and that the lady had twins! You may wonder why I am telling you this childish story, but it is related by the same man who first printed, in the same book, the tale about Coster of Haarlem as the inventor of printing and adduced as proof of the existence, at *his* time, of some pewter jugs said to have been cast from Coster's printing type, more than 150 years before! Bibliographers need be reminded of the most insecure basis on which the

⁸ He planned the book, created the type, and supervised the printing, at least in part; before the Bible was completed the break with Fust occurred. Peter Schoeffer and the workmen trained by Gutenberg deserve full credit for their technical performance.

so-called Coster literature rests. I need not tell you to what proportions it has grown since this first printed account. For a thorough critical reveiw of Junius's story may I refer to Kruitwagen's essay in the *Gutenberg-Festschrift*, 1925.⁹

When paper was first made in China (105 A.D.) the Minister of Public Works reported the invention as a useful one to his emperor, and therefore *his* name (Ts'ai Lun), not that of the inventor, has come down to us in the Chinese Annals, as we learn from Professor Carter's book, *The Invention of Printing in China and its Spread Westward*.¹⁰ No official, no ecclesiastic, no prince of state realized the significance of the invention of printing, though they made use of it immediately. Witness, for instance, the printing of large numbers of Letters of Indulgence¹¹ after the conquest of Constantinople by the Turks in 1453, for the express purpose of filling the papal treasury for the defense of Christendom, and also notice the use of political campaign broadsides by contenders for the archbishopric of Mainz in 1461-1462.¹² Nor did the scholars who saw the first printed encyclopaedia, the *Catholicon* of 1460, grasp the significance of its mechanical production, indicated so modestly, without advertising the inventor, in the colophon by the phrase: "Not by stylus or pen but by the miraculous concordance of punches and matrices."

The mediaeval world of the European continent, in the early part of the fifteenth century, was seething with excitement. Humanism, the revival of classical learning, engaged the intellectuals; in the social structure of cities the old patrician order had to give way to the rising power of guilds and tradesmen's

⁹ Kruitwagen. *Die Ansprüche Hollands auf die Erfindung der Buchdruckerkunst*. In *Gutenberg-Festschrift*, Mainz, 1925.

¹⁰ Second, revised edition, New York, 1931.

¹¹ Seven editions of 1454-1455 and two of 1461-1462 are listed by De Ricci in *Catalogue Raisonné des Premières Impressions de Mayence (1445-1467)*, Mainz, 1911. (*Veröffentlichungen der Gutenberg-Gesellschaft*, VIII-IX.)

¹² De Ricci lists nine broadsides.

unions, with consequent financial chaos;¹³ in the spiritual domain there were heard the cries of reformers, such as Savonarola, forebodings of a strife of minds and weapons; in the political field there was the trend towards consolidation of power in the hands of feudal dynasties, with consequent loss of free government by the cities. In all, a picture of unrest and confusion. Small wonder, then, that the new instrument for spreading new ideas or old knowledge was valued more for what it did than for what it was. It was seized upon avidly. Over 40,000 books, pamphlets and handbills were issued during the first fifty years of printing, an astonishingly high figure, testifying to the greatness of the demand. Our present census¹⁴ of surviving specimens does not even give us a full picture of the publishing activity of that hectic time, as much material must have perished during 450 years.

At Mainz, the seat of the first press, such a heavy toll has been taken by sieges, plunderings and fires, beginning with 1462 and ending with the French Revolution, that it seems almost miraculous that houses, documents and books of the fifteenth century have survived at all. Knowing what a 42-line Bible means to us, we can only read with sadness of an early incident wherein a ship laden with the city's records, treasures and early printed books sank in the Rhine on the way to Holland!

In the face of such calamities we must be glad that we still have, either in the original or as transcripts, some twenty-seven authentic documents about Gutenberg,¹⁵ in addition to quite a number of printed works attributed to him, from handbills and frag-

¹³ We are particularly well informed about the situation in Mainz, from the middle of the fourteenth century to the year 1462; see Seidenberger. *Die Zunftkämpfe in Mainz und der Anteil der Familie Gensfleisch*. In Bockenheimer's *Festschrift, Gutenberg-Feier in Mainz*, 1900.

¹⁴ *Gesamtkatalog der Wiegendrucke*, Leipzig, still in the course of publication.

¹⁵ Schorbach. *Die urkundlichen Nachrichten über Johann Gutenberg*. In *Festschrift . . . der Stadt Mainz*, 1900, edited with comment, copious notes and good facsimiles; see also Fuhrmann. *Gutenberg and the Strasbourg Documents of 1439*, New York, 1940, a new interpretation, with the text in polyglot fashion, critical and explanatory notes, and facsimiles.

ments to the massive tomes of the Bibles and the *Catholicon*.

From the documents alone no clear picture of the invention or of the inventor¹⁶ can be obtained. Many generations of bibliographers have tried — with lamentable results. There are too few facts to make a picture, and some bibliographers, including some very recent ones, have arrived at what they call the "Gutenberg Legend."¹⁷ Even the study of the early specimens of printing does not provide such definite data as would satisfy the strict historian. No printed book or sheet bears the name of the inventor. Of the two Bibles ascribed to him only one copy of the 42-line Bible (at the Bibliothèque Nationale, Paris) bears a rubricator's date,¹⁸ while we are entirely in the dark about the time and the place of the printing of the 36-line Bible (except that from internal evidence shown by Dziatzko we know that it was printed *after* the 42-line edition).¹⁹ The *printed* date of 1454 occurs on Letters of Indulgence. And all of the cruder and therefore earlier surviving specimens and fragments of Mainz printing form only circumstantial evidence which is still the object of debate among the most astute specialists. The controversial literature in the form of learned monographs has grown to such proportions that few can follow it, let alone understand it, and the many conflicting theories propounded leave the would-be student's head in a whirl.

Are we, then, left to theories and conjectures in trying to answer the question about the invention and the inventor? My an-

¹⁶ For a genealogy of the inventor's family see Schenk zu Schweinsberg. *Das Geschlecht Gänzfleisch*. In *Festschrift . . . der Stadt Mainz*, 1900. The Strasbourg Documents are the only source of light on Gutenberg's personal life, from remarks of people who were in contact with him. He emerges as an aristocrat of energy and ability, with a reserve befitting his status, respected for his knowledge, sought out by influential people with offers to invest in his business. While in Strasbourg he moved in the circles of learned clerics and was associated with men of wealth and position.

¹⁷ See Dr. Pierce Butler. *The Origin of Printing in Europe*, Chicago, 1940.

¹⁸ Vol. I: August 24, vol. II: August 15, 1456.

¹⁹ Dziatzko. *Gutenbergs früheste Druckerpraxis*. In *Sammlung bibliothekswissenschaftlicher Arbeiten*, IV, Leipzig, 1889-1890.

swer is a decided no. For modern research goes much further than the completely bookish bibliographers of former centuries and up to recent times imagined. What the modern school of investigators has done is to make a fresh start at the other end of the line, so to speak, forgetting tradition, legend, hearsay evidence of chronicles, and most printed accounts, and to look at the *technological side* of printing, for printing is essentially a technical art. If we can define just *what constitutes* typographic printing, if we can show in what way it differs from the old wood block technique that came with paper from the Orient, and what the technical necessities for typographic printing really are — then we can reason out the probable development of the art and assign known facts and dates in their proper places, and we can call *that* man the inventor of printing who either can be shown to have taken the essential technical steps or can be assumed to have done so by virtue of indirect evidence.

I have attempted to do this in the chapter on the Invention in *A History of the Printed Book*,²⁰ and in my recent book on the Strasbourg Documents of 1439.²¹ The new viewpoint gained by this approach is this: typographic printing is presupposed upon the construction of types and the manner of their production. The whole technique is exclusively one of *metal* and its tools and processes, viz. steel engraving tools and files; brass and copper, later steel, for the intermediate steps of punches and matrices; and a semi-soft alloy of certain characteristics for casting. Nor is this all. The assembly of separate characters into straight lines, columns and pages, in perfect rectangles is a feat of engineering that only precision mechanics could achieve. Could a wood carver be expected to have a conception of the mathematical accuracy required by types assembled by the hundreds or the thousands in a page? And what but a metal casting mould, accurately adjusted,

²⁰ Limited Editions Club, New York, 1938.

²¹ Press of the Woolly Whale, New York, 1940 (limited edition).

would yield multiples of the same character, all alike? No human hand could fashion them, regardless of skill or substance, directly. It is not possible today and was less possible five hundred years ago. Alongside of this the question of ink and press is of secondary importance, although it is closely connected, so much so that it can be shown by simple experiments that even the best of modern types yield poor impressions if ink and press are not properly adjusted.

The popular conception of wooden letters, obtained by sawing apart a wood block of text, as the beginning of printing is untenable. It can be shown that "wooden letters" never existed and that the references of early chroniclers to them were laymen's misinterpretations of technical objects seen by them. Technically, wooden characters for printing could not have been produced in the fifteenth century, in the absence of precision tools and cross-grain box wood. As a laboratory experiment they were made for the first time in 1900, when an English bibliophile²² felt irked by De Vinne's statement that it could not be done. Nothing was proved by this experiment except what everybody knows, viz. that the twentieth century is technically further advanced than the fifteenth.

Nor can the successful construction of a printing press by Gutenberg be minimized by the reference to wine and cheese presses long before his time — as was done by a most recent writer.²³ One of Gutenberg's partners²⁴ in the Strasbourg enterprise owned a paper mill, and the kind of sturdy baling press needed by the papermakers for keeping stacks of paper under pressure while drying, was the prototype for the printing press which needed, however, some important modifications to make it suitable for the purpose. There is a venerable old press in the Na-

²² Hodgkin. *Rariora*, London [1901], vol. II.

²³ Butler, *supra*.

²⁴ Andrew Heilmann, in conjunction with his brothers Nicholas and Anthony, the latter a deacon at St. Peter's.

tional Museum of Mexico City, labeled as a "printing press" and so publicized during this year, I am sorry to say, by our own American Institute of Graphic Arts. One glance at the picture shows its true purpose as a papermaker's press; the bed is low and the spindle is long, while a printing press needs only a clearance of an inch or so, with a short screw acting on a quarter turn of the handle. In a printing press the bed must be of table height and must have an extension for sliding the form into the open for inking and the laying-on of the paper.

As to printing ink, an ideal combination of ingredients has been used for five hundred years; there is none better. Gutenberg used it first. Previous use, by Dutch artists²⁵ before 1400, of linseed oil varnish for painting does not detract from Gutenberg's notably successful achievement in finding the right kind of viscous substance that would adhere to metal types and transfer the image clearly to the paper.

If we analyze printing, as it has been practiced for five hundred years, from the technical side and from experience rather than by speculation, we come to definite conclusions as to the minimum of technical points that must have been attended to before printing of any sort could have resulted. Allowing some latitude for crudity for an age that knew no micrometers, magnifying glasses and the like, we need only look at one of the older specimens of printing to see whether certain technical requirements have been met, and from the degree of perfection, visible to the trained eye of the technician, we can make our deduction as to the probable time of production, taking into account other known bibliographical or historical data.

In this round-about way it has been possible to place in chronological order, fairly accurately and plausibly, a number of existing fragments antedating the 42-line Bible by about ten years. This ties up with the known movements of a certain man, and we

²⁵ The brothers Van Eyck are commonly credited with having first painted with linseed oil paints.

can localize all this work, with a high degree of certainty, in the city of Mainz. The dyed-in-the-wool historian will, of course, shudder at the large amount of conjecture. But if we want more than a bare skeleton of incomplete facts, which will never give us a clear picture, no other way is open to us.

From documentary sources we know this man to have lived in Strasbourg from about 1430 to 1444²⁶ and to have experimented with printing as early as 1436 and at least until 1443, first alone and later in partnership with others under a five-year contract. No printed specimen from that period has come to light. The possibility of ever finding one in an old binding is remote, by the very nature of experimental prints. Even if we saw it we could not be sure whether it belonged to the Strasbourg or the Mainz period. However, we shall cross that bridge when the next find is announced. What is considered the oldest extant piece of typographic printing, the *World Judgment*, was discovered in 1892, and other specimens of early vintage, notably the *Calendar of 1448*,²⁷ have come to light since.

Our knowledge of what went on in Strasbourg is derived from the records of a partnership lawsuit that had nothing to do with printing but in the course of which a number of witnesses gave testimony that allows certain inferences to be drawn, all pointing in the direction of what we can reason out to be the basic steps of printing. The interpretation of these documents is a most difficult one, on account of the vagueness of the expression of the witnesses. A critical evaluation of the contents must be made, unfortunately, from printed transcripts and fragmentary facsimiles,²⁸ the original documents having perished by fire at various

²⁶See Schorbach, *supra*.

²⁷Found by Zedler at Wiesbaden in 1901.

²⁸Schoepflin. *Vindiciae Typographicae*, Argentorati, 1760, contains a transcription and Latin translation; the latter, also most of the comment, in Latin, is now worthless. See also Laborde. *Débuts de l'Imprimerie à Strasbourg*, Paris, 1840; the transcription is full of errors and the French translation is faulty, but the facsimiles, made from lithographic tracings, are excellent.

times (1793 and 1870). It is, therefore, not surprising that the genuineness of the records has been questioned ever since their first publication in 1760 and especially after their final destruction had made an examination by modern methods impossible.

The dramatic circumstances of the finding of these Strasbourg records and their publication at a time when local historians wanted evidence of early printing in their city for the sake of fame, have led critical observers to declare them forgeries. The internal evidence, however, does not lend support to this theory. Moreover, Schoepflin's Latin translation of the text in his *Vindiciae Typographicae* shows discrepancies indicating that Schoepflin did not understand the original text. As Schorbach so aptly remarks: a forger who does not understand his own fabrication, that is impossible. Recent documentary finds in the Strasbourg archives, published in 1925 and 1926,²⁹ have made the genuineness of the text published by Schoepflin a virtual certainty and have further removed suspicion directed by Hessels³⁰ and others³¹ against the archivist, Wencker.³²

In my recent book³³ I have presented all the evidence in this matter, together with the various translations and notes showing errors of translation; this was especially necessary as Hessels pyramided his errors upon Laborde's faulty French rendering and thus arrived at monstrous conclusions. As a specimen I offer the "basket of pears," a present to Gutenberg by his associates; Laborde mistranslated "bierre" and Hessels, seeing the numeral 100, made it "100 flasks of beer" and on the strength of this described Gutenberg as a drunkard, having a hilarious time with the

²⁹ Schorbach. *Neue Strassburger Gutenberg-Funde*. In *Gutenberg-Festschrift*, Mainz, 1925, and *Gutenberg-Jahrbuch*, 1926, both published by the Gutenberg-Gesellschaft.

³⁰ Hessels. *Gutenberg — was he the Inventor of Printing?* London, 1882; and *The so-called Gutenberg Documents*, in *The Library*, London, 1909.

³¹ Notably Bockenheimer in his *Festschrift . . . Mainz*, 1900.

³² Who discovered the Strasbourg Documents in 1740.

³³ On the Strasbourg Documents of 1439, *supra*.

convivial clerics of the Convent of St. Arbogast! The reader of the polyglot section of my book may now make his own deductions. By the nature of the material it is entirely possible that his interpretations may differ from mine in such a disputed matter as, for instance, the meaning of the "four pieces." But it gives me some satisfaction to find that on this important point, for instance, I find myself in complete agreement with Theodore Low De Vinne who offered his opinion as early as 1876 that they constituted a type-casting mould.

The Strasbourg period of Gutenberg was one of experimentation. It is my belief that the basic problems that in their entirety constitute printing were solved during that time, and that the Mainz period, beginning with 1444, saw the application and gradual technical perfection, culminating in the 42-line Bible (which was begun by Gutenberg but finished by his partners) and the *Psalter* of 1457 (which was planned and prepared by Gutenberg but was executed by Fust and Schoeffer). During this time Gutenberg was repeatedly in need of money, for what he was aiming at was not just ordinary job printing but a class of books that was needed at the altar service of every church, that had to possess dignity and quality comparable to manuscript copies, viz. Bibles, Psalters and Missals. From a business standpoint Gutenberg's plan was an excellent one, for it promised rich returns. The tragedy was that by the time the necessary high technical quality of printing had been reached he was so deep in debt to Fust, four years after the first loan of 800 guilders and about two years after another loan of like amount (both amounting to a sizeable fortune), that he was foreclosed, retaining only his initial equipment, while the huge profits from the sale of the 42-line Bible accrued to Fust and Schoeffer and enabled them to produce within less than two years the magnificent *Psalter*, which brought them name and fame and more profits. The inventor's dream had come true, but he derived no material benefit from it. He was even

powerless to prevent his former associates from arrogating to themselves the glory of the invention.

The theory that Gutenberg from the beginning planned the printing of the large service books for church use is supported by the style and the large size of type he used for his experimental printing; it was the type in which later the 36-line Bible was printed. As a school book or job type it was entirely too formal and too large; but as one of the three sizes required in a missal it is readily explainable. The system is shown in the *Psalter* of 1457 in which two larger sizes occur together with the 42-line Bible type. When an order for "job printing" was placed, viz. the *Letters of Indulgence* of 1454 and 1455, special, small and informal types were created.

It is in this difference in aim that the greatest dissimilarity is found between the early Dutch printer and Gutenberg's press.

While there was every incentive for Gutenberg to strive for technical perfection and aesthetic quality, no such considerations existed in the case of the utilitarian pamphlets of the early Dutch printer. In an attempt to eliminate the hand work of the rubricator, chapter headings in red were printed in a few signatures of the 42-line Bible; variations in register, however, were responsible for the abandonment of the scheme of printing in two operations. Perfect register was achieved by the simultaneous printing of three colors in the *Psalter* of 1457; the use of the decorative initials in colors — which we know since Wallau's investigation to have been of metal, not of wood³⁴ — is as astonishing as it is admirable. Artistically, the technique of printing could not go further than this. In the *Psalter* it had found the ultimate in expression with its own tools and materials, for its time and for 450 years thereafter. Only in our day has color printing advanced beyond this early achievement.

The work of the Mainz press continues to be the object of

³⁴ Wallau. *Die zweifarbigten Initialen der Psalterdrucke*. In *Festschrift . . . der Stadt Mainz*, 1900, with a complete listing and excellent facsimiles.

“typological” investigations which lead to a variety of conclusions. The events of twenty years of Gutenberg’s life in and near Mainz cannot be chronicled with certainty, for the existing documents yield but a few facts. Last year another mosaic stone was added to the picture: the discovery of the date of Gutenberg’s death on February 3, 1468, was published by Dr. Ruppel of the Gutenberg Museum of Mainz in his excellent, most scholarly book, *Gutenberg, his Life and his Work*,³⁵ which, I hope, will some day be translated into English.

In conclusion it may be stated as definite that successful type-casting is purely a metal technique. We may dismiss as utterly impossible all statements of earlier writers that printing descended directly from wood block printing via “wooden letters.” No bridge leads from the wood cutting technique to the metal technique of engraving, punching and casting. The man who visualized a mechanically perfect system of separate types and was accustomed to the accuracy of graver and file and punch, by way of his early training, cannot be believed to have reverted to the crudity of the carving knife and the use of such unstable material as wood.

There is a good reason why the process of casting type in a steel mould and with a certain alloy has not changed in five hundred years, in spite of all advances in metallurgy and engineering, and that is the impossibility of producing printing types in any other way.

The metal craftsman of Strasbourg found, by experiment, the proper method. The casting process of type is, as De Vinne first pointed out, the crux of the invention;³⁶ and whoever used this method first is the inventor of printing. That man — a real person and not a “legend” — was JOHANN GUTENBERG.

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³⁵ Ruppel. *Gutenberg, sein Leben und sein Werk*, Berlin, 1939.

³⁶ De Vinne. *The Invention of Printing*, New York, 1876.

Mr. Douglas C. McMurtrie added several valuable points in the ensuing discussion. First he pointed out that the great majority of serious historians have abandoned the claims made for Coster as the inventor. Even the many fragments of unquestionably Dutch origin need not be supposed to be of very early vintage. Their unknown printer may well have executed them soon after the scattering of workmen of the Mainz press in 1462, when the city was sacked. That would bring them into line with the wood block books most of which belong to the 1470's; they would, furthermore, precede by only a few years the first definitely known Dutch printing at Utrecht, 1473.

Although the speaker had intentionally omitted reference to contemporary evidence, for the sake of brevity, Mr. McMurtrie did not want to leave the audience under the impression that there was no such evidence of importance; consequently he pointed out that two sources of interest to historians mention Gutenberg directly as the inventor of printing: (1) an ordinance of Charles VII, King of France, of October 4, 1458, by which Nicholas Jenson, master of the mint and skilled in engraving, was sent to Gutenberg in Mainz for the purpose of informing himself about the new art;³⁷ (2) a letter by Guillaume Fichet, professor at the Sorbonne, to Robert Gaguin which was printed in the introduction to Gasparino's *Orthographia* in 1471. The professors of the Sorbonne had been instrumental in bringing three German printers to France, in 1470, who must have learned the craft at Mainz or from printers migrated from there. They were close enough to the inventor to have known the facts. The copy in which Fichet's printed letter occurs has been known since 1883.³⁸

³⁷ Full text and comment in Dziatzko. *Beiträge zur Gutenberg-Frage*. In *Sammlung bibliothekswissenschaftlicher Arbeiten*, II, 1889.

³⁸ See McMurtrie's excellent monograph, with facsimiles, on *The Fichet Letter*, New York, 1927 (limited edition, Press of Ars Typographica).

A STUDY OF THE NUREMBERG CHRONICLE

By DAVID CUSHING DUNIWAY

ENGLISH and American collectors of incunabula have often been attracted by the magnificent illustrations of Hartmann Schedel's *Nuremberg Chronicle* of 1493, more properly called *Liber Cronicarum*. Brought to the general attention of English collectors in 1724 by Thomas Hearne, copies of the book by the beginning of the last century had found their way into many libraries of members of the original Roxburghe Club and were glowingly described by Dibden. Since then Humphries and others have sung their praise,¹ and in 1930 the Book Club of California published the first American monographic study of the *Chronicle*, Henry Lewis Bullen's *The Nuremberg Chronicle*. The success of this publicity appears from Margaret Stillwell's *Incunabula in American Libraries*, in which there are recorded 211 American owned copies of the five fifteenth-century editions. Since the attraction of the book has been its essentially gothic illustrations, perhaps it is time to appraise the humanist author and his text.

¹ H. N. Humphries. *A History of the Art of Printing*, London, 1868, p. 172 is untrustworthy. [William Clarke] *Repertorium Bibliographicum*, London, 1819, p. 158, quotes Hearne. Hearne's discussion centered around Thomas Baker's description of four copies at Cambridge and appeared in the preface of *Robert of Gloucester's Chronicle*, Oxford, 1724. It was reprinted in his *The Works of Thomas Hearne*, London, 1810, vol. 1, p. xxiii-xxxii, and was thus cited by Dibden. A second version of Thomas Baker's description was printed in Robert Masters. *Memoirs of the Life and Writings of the late Rev. Thomas Baker*, Cambridge, 1784, p. 123-125, and discussed p. 44-46. Thomas Dibden's account appeared in the library catalogue: George John Earl Spencer. *Bibliotheca Spenceriana*, London, 1814, vol. 3, p. 225-280, and it is especially important for its citations of early European literature. See text *infra*.

The son of a wealthy burgher who is known to have sold Venetian wines at the Council of Constance, Hartmann Schedel was born in the free city of Nuremberg in 1440. His mother died when he was five, his father when he was eleven, and at sixteen, the boy matriculated at the University of Leipzig. From this period dates his intellectual friendship with his first cousin, Hermann Schedel, a graduate of Leipzig. Hermann had gone to Padua to study medicine when Hartmann was a year old, and when Hartmann enrolled at Leipzig, Hermann, who had been physician to the Duke of Landshut, moved to Augsburg to be city physician. There he became a member of the circle of early German humanists surrounding Sigismund Grossebrot, and his wealthy patron, Ludwig Meutung.²

While Hartmann was studying the traditional scholastic *ars oratorica et poetica* at Leipzig, his cousin was copying Boccaccio, Petrarch, Terence, and in 1460 Poggio's translation of Xenophon. This bibliomania began in his student days at Leipzig, and Hartmann was likewise bitten when at the University. In the surviving correspondence between the cousins, there is a constant recurring theme of the beloved land, Italy. It was easy therefore to divert Hartmann to the south, after he obtained his baccalaureate and his master's, and had set himself to study law. For a few months in the spring of 1462 there lectured at Leipzig on Terence a traveling apostle of the new learning, Peter Luder. Following this man to Padua, his cousin's old University, Hartmann sat at the feet of the University's first teacher of Greek, and also devoted himself to the practical study of medicine. In Italy Hartmann collected for his cousin medical and humanist manuscripts, which he brought back across the Alps in 1466. He returned to Nuremberg a doctor of medicine, versed in the clas-

² Ludwig Meutung and Company was the first Augsburg bank to make a "silver contract" with a Hapsburg, Duke Sigismund of the Tyrol. In 1465 the bank lent him 35,000 gulden in return for the produce of certain silver mines. See Jacob Strieder. *Jacob Fugger*, New York, [c1931], p. 40.

sics and Greek, with some knowledge of Hebrew. His first task was to learn the sciences of astronomy and astrology, auxiliaries necessary for the successful practice of medicine in that day. At this time Hermann also returned to Nuremberg as city physician, and he is credited with having introduced the cult of humanism to his native metropolis, hitherto devoid of Renaissance intellectuals.

Visiting monasteries to copy precious manuscripts, Hartmann in 1468 made a holy pilgrimage to Aachen, Spier, Cologne, Maesterich, Liege, and Bruges. All his life he combined piety, the search for manuscripts, and friendships with learned clerics. For example, in 1502, Hartmann twice journeyed from Nuremberg to Bamberg to visit his friend the Abbott of St. Michael's, Andreas Lang, then on his death bed, and to explore the treasures of the monastic library. The copy of the German edition of Schedel's *Chronicle* which Lang presented to this library is now at Stanford University.

Hartmann as a young doctor served first the free city of Nordlingen, and then the Count of the Upper Palatinate at his capital, Amberg. In 1481, Hartmann returned to Nuremberg to help his cousin, and at Hermann's death in 1484, he succeeded to Hermann's position as city physician. Many of Hermann's manuscripts were dispersed at this time in bequests to monasteries and poor students. Others were sold by Hartmann to Sebald Schreyer for the library of St. Sebald, and to the city of Nuremberg.

The rest of Hartmann's life was spent in his native city, occupied with his practice, with his studies, with occasional trips to neighboring monasteries, with the problems of a large family, with his personal estate, and with the duties of bursar of the Cathedral of St. Sebald. Great or violent events of his age had barely touched him. Plague had pursued him in Italy, and in 1505 took his brother Johann, a Dominican monk. Wars had caused him to leave Nordlingen, when the city cut his salary to

pay for an Imperial levy of men and gold needed to relieve the city of Neuss at that time besieged by Charles the Bold of Burgundy. Thus it was that after an active, happy, and relatively peaceful existence, Hartmann died in 1514 at the age of 74, leaving his heirs twelve fiefs, in part inherited from two fathers-in-law, and what was for the period a great library. More than half of this library was eventually sold in 1552 by Hartmann's grandson, Melchior, to John Jacob Fugger for about 500 gulden. Fugger, a patron of the arts, in turn sold the library with his own books to his sovereign, Duke Albert V of Bavaria, with whose library it is now incorporated in the great Munich Staatsbibliothek.

This library is the greatest claim to fame that can be advanced for Hermann and Hartmann Schedel. It contains many manuscripts and two printed books inherited from Hermann, and manuscripts and many printed books acquired by Hartmann himself. It covers their wide intellectual background and was classified by Hartmann in his own catalogue under rubrics for grammar, rhetoric, moral philosophy, *arte humanitatis*, *poete et oratore*, Greek history, Latin fathers, modern history, cosmography and geography, medicine, law, sacred religion, mathematics, astrology, astronomy, alchemy, and books in the vulgar tongues. Contemporaries, such as Sigismund Meisterlin, chronicler of Nuremberg, Johann Trithemius, historian and abbot of Spornheim, Conrad Celtis, poet laureate of the Empire, and Nicholas Glassberger,³ Franciscan monk, historian of his order and of Bohemia, used the library, while it was the wonder of Albrecht Dürer and Wilibald Pirckheimer, members of the younger generation. Its importance to us lies in the fact that much of it is still known, and that it preserves many details about lesser figures of the German Renaissance. It can best be compared to a library of the next generation, that of Beatus Rhenanus of Schlettstadt, friend of Erasmus, or to little known contemporary libraries in Nurem-

³ For Glassberger's use of the library see *Nicholas Glassberger and his works* ... [edited] by Walter Seton. Manchester, 1923, p. xxx ff.

berg, those of Hans Tucher, Georg Keypers, and Sebald Schreyer.

The history of the library or its development has been traced by Richard Stauber, a German scholar, through inscriptions, two catalogues compiled by Hartmann in 1498 and 1507, and through numerous comments made by the Schedels at the ends of various manuscripts which they copied. Of 623 books in the library in 1507, 436 were identified in Munich and Nuremberg libraries, but these figures give no real idea of the size of the collection. Hartmann habitually bound together five to ten pamphlets and broadsides with good-sized works, as is illustrated by his own copy of the *Chronicle* with which are bound manuscripts, five pamphlets and five woodcuts. Books from the library which have been offered for sale have often been torn apart and the provenance of the pamphlets unfortunately lost. If they are in original covers, Hartmann's books are bound in boards with white or red-brown leather, ornamented all over with characteristic contemporary German stamps. Inscribed on the front is "Libri Doctoris Hartmanni Schedel Nurembergensis" or "Nuremberga," and there is an extra parchment strip with the title of the book or of the collection in blue or red. Pages are foliated with red ink, and on the verso of the title-page there often appears Schedel's coat of arms, a moor's head, sometimes quartered with the arms of either his first or second wife.⁴ Unless there is an inscription it is difficult to identify books which belonged to Hermann.

The inscriptions of the library reveal many details of the history of the cousins as related here, as well as Hartmann's character. He bitterly complained over the misdeeds of his time, disparaged those who seek fame, and declared that virtue is the eternal monument. A German burgher's son, he was typical of

⁴ The arms of the first wife are two crossed shovels for Heugel, described by Stauber as "zwei gekreuzten Schaufeln," and the arms of the second wife are three legal maces for Haller von Braunwart, described by Stauber as "drei an Ringen befestigten, nach oben gerichteten Kolben." A variant for Haller von Hallerstein is two superimposed silver wedges, described by Stauber as "zwei sich keilförmig nach unten vereinigende Silberleisten." A third variant for Haller was noted by Haitz as three ravens.

German humanists, for after his training in Italy, he returned to his native land to become a pillar in patrician society, where alone the humanist was popular. A home apostle of the spirit of classicism, we find him honestly blending Christian and classical thought as was only possible in a Renaissance mind. Thus when a new year began, he gave thanks in the name of an omnipotent Jupiter, God, Son and Holy Ghost. Hartmann was truly infused with the spirit which inspired Erasmus, after whom Hartmann named a son. The emphasis upon the truth of the Bible opening Hartmann's *Liber Cronicarum* is to be compared with Erasmus's own life devoted to rescuing the true text of the Holy Scriptures. Schedel, however, was not the genius who could write original thoughts. He was the servant who spent his time copying and collecting the works of contemporaries and the classics which they cherished. Nothing so well demonstrates this as his own book, which he himself calls *Liber cronicarum cu[m] figuris et ymagi[ni]bus ab inicio Mu[n]di*.⁵

⁵ Hain, 14508. The book is often catalogued by the woodcut title-page for the index: *REgistrum | huius ope- | ris libri cro- | nicarum | cū figuris et ymagi- | bus ab inicio mūdi*. There are twenty unnumbered leaves for the title-page and register, folios I-CCLXVI for the first part of the text, six unnumbered leaves of which one is blank for a signature known as the Sarmacian supplement, folios CCLXVII-CCXCIX for the remainder of the text, and one printed and two blank leaves to complete the final signature. Leaves CCLVIII-CCLXI were numbered but intentionally left blank by Schedel so that the reader could add to the history. In this edition and the other four there are typographical errors in foliation not important to note. Copies of the first edition with the supplement at the end are probably misbound, or first state, for in the German edition the supplement is included in the foliation (CCLXIII-CCLXVII). However, it will take further study to prove that any such copies are first state, while some are obviously incorrect like the University of California copy which has a pair of unmatched pen written signature marks. There were no printed signature marks, and handwritten marks are found throughout a New York Public Library copy of the second edition and the copy of the first edition in the Typographic Library and Museum of The American Type Founders Company, now at Columbia University. From these we learn that there are from two to six leaves in a signature. Enough unwatermarked paper was used to make difficult the determination of signatures in books without marks. There are six watermarks in the first edition, of which a crown, a double cross, a gothic f, a castle tower, and a gothic p are noted in: C. M. Briquet, *Les Filigranes*, Paris, 1907, vol. 2, p. 286, no. 4668, p. 337, no. 5753, vol. 3, p. 441, no. 8151, p. 461, no. 8563, and p. 800, no. 15899 respectively. Unnoted is an open-topped gothic p or h which appears rarely. The University of California copy is the largest seen, measuring 485 x 335 mm. There are

Schedel's sources have been carefully studied by Michael Haitz, and have been found to be principally printed works of humanist Italians from his own library, such as Jacob Philip of Bergamo's *Supplementum Cronicarum*; Flavio Blondus's *Decades*; Platina's *Lives of the Popes*; and the continuation of Eusebeus's *Chronicon* by Matthias Palmer of Pisa. His use of non-humanist historians is sparing, and when he did use them he felt free to change their style if it was not sufficiently classical. It is noteworthy that he did not take such liberties with the writings of the humanists, themselves. Schedel calls himself a compiler, and has carefully interwoven the various texts, preserving their form so that it is possible to identify the origin of sentences and even parts of sentences. That his work was done with careful thought may be illustrated by his discussion of the discovery of typography, regarding which Schedel found that authorities disagreed. Matthias Palmer ascribed the invention to Gutenberg in 1440; and Jacob Philip of Bergamo discussed as possible inventors Gutenberg, Fust, and Jenson. In consequence Schedel wove together the two statements, using from Matthias Palmer, 1440, the date we celebrated last year, and Mainz, the place, and from Jacob Philip of Bergamo three sentences of eulogy.

For ancient history and what we know as the Middle Ages, Schedel's sources naturally drew from old chronicles. In consequence Schedel repeats much that we call fable. For example, Platina copied the story of Pope Joan from the chronicle of

two gothic types used, one for the text and one for the running page head, and two styles of Lombard initial letters, one three-line and one two. See: Konrad Haebler. *Typenrepertorium der Wiegendrucke*, in *Sammlung Bibliothekswissenschaftlicher Arbeiten*, 1905, vol. 19, p. 72-73, no. 9, a cross between no. 15 and no. 17 running 110 mm. to 20 lines, and no. a and no. b. There are also two types of Roman initials one used for foliation and one for the index. All are illustrated in H. L. Bullen. *The Nuremberg Chronicle*, San Francisco, 1930, p. xv. Spaces were left for illuminated initials of the first, second, second portion of the sixth, and seventh ages of the world, and for each letter of the register. There are two colophons, for the significance of which see the text, *infra*. The first only mentions Schedel, the author, while the second mentions Schreyer, Wolgemut, Pleydenwurff, Alt and Koberger. The book was finished July 12, 1493.

Martin of Troppau, and Schedel copied it from Platina. That he used this story was no sign that he was mediaeval as has been argued, for it was not questioned for another one hundred and fifty years, or disproved until the middle of the last century.⁶ Rather it would seem to be further proof of Schedel's humanist character. He drew it from a humanist source, while he neglected other mediaeval legends because they had not been copied by his masters. In passing, it might be noted that the picture of Pope Joan and her baby in the *Chronicle* with the accompanying text have sometimes been mutilated or defaced by pious and offended clergy of the following centuries and have been the object of comment from the days of Thomas Hearne. Strange it is that Schedel failed to use the classical sources in his own library, but it seems that he was under the illusion that what was in print and was new was a better authority.

The authorship of Schedel himself has been questioned, but Michael Haitz has shown that from the handwriting of the original manuscript it is apparent that Schedel wrote most of it himself, and that only portions were written by three unknown scholars, the *doctissimi viri* of the final colophon. One of them edited and changed to some extent the *Europa* of Aeneas Sylvius Piccolomini, Pope Pius II, which is printed as the final section of the *Chronicle* and which was recognized as such by a scholar of the Renaissance tradition, Thomas Hearne, as recently as 1724. Its character is but a rediscovery of modern German scholarship. From an inscription in the original manuscript, it is apparent that the unknown doctor was at work on the *Europa* in the spring of 1493, before Schedel finished his portion of the book, and in consequence the colophon which closes Schedel's work, represents only that part of the text for which he was responsible, and it explains why there are two colophons, so puzzling to bibliographers. The final colophon is for the whole book, and recognizes in gen-

⁶ A summary of the literature is in *The Encyclopaedia Britannica . . . the Eleventh Edition*, Cambridge, 1911, vol. 15, p. 420.

eral terms all of the co-operating compilers. There is little substantiating evidence for the thesis that there was a disagreement over the amount of praise to be given to the Emperor Frederick III.⁷ Schedel was a loyal supporter of the institution of Empire, and the only points on which he disagreed with his Italian sources involve Imperial-papal relations. The Empire begins for Schedel with Julius Caesar, and he asserts its claims to consequent priority. Such an idea must have offended Italian contemporaries.

The parts of the *Chronicle* which are original are portions of the geographical descriptions of cities based upon Schedel's travels. One of the geographical passages, inserted in Aeneas Sylvius's *Europa*, deals with Martain Behaim and his voyage down the coast of Africa. It should be emphasized that it has long been disproved that Behaim sailed west to America, and this passage does not therefore make the *Chronicle Americana*.⁸ Rather it is of importance because in a manuscript found by Richard Stauber, Schedel claims to have aided in the construction of the famous Behaim globe of 1493, and the reference to Behaim lends color to this claim.

From the discussion of the text and its author, it should be plain that both were humanist products, reflecting the humanist point of view, perhaps not brilliantly, but thoroughly. Such can also be said for the patron who financed the publication of the *Liber Cronicarum*, Sebald Schreyer. Born in Nuremberg in 1446, he was brought up at the court of Frederick III, being among those of the court who accompanied the Emperor to Italy for the coronation. When he settled in his native city, Schreyer turned his attention to civic affairs, and was responsible for the introduc-

⁷ The theory is advanced in H. L. Bullen, *op cit.*, p. XXI-XXIV, and may eventually be substantiated, for Schreyer had been brought up at the court of the Emperor, while Schedel had served at the court of the Count Palatine, one of the Emperor's opponents.

⁸ A classic discussion is in: Justin Winsor, ed. *Narrative and Critical History of America*, Boston and New York, [1886], vol. 2, p. 34-35. The theory was first advanced in 1682 in: J. C. Wagenseil. *Sacra Parentalia*.

tion of the Roman law in the civil process. The resulting code was published by Koberger as *Die Reformation der Stadt Nürnberg*, and is Schreyer's first connection with that famous printer. One of the wealthiest men in the town, owning over six hundred houses, Schreyer was Kirchenmeister of the Cathedral of St. Sebald, for which Schedel was bursar, and was responsible for the building of the tower of the church. As a patron of the arts, he preceded Wilibald Pirckheimer by a generation employing Adam Kraft and Peter Vischer. The latter executed for Schreyer the shrine of St. Sebald, which is one of the earliest examples of Renaissance art in Nuremberg. Schreyer also built a chapel for the Carthusian cloister, a hospital and other civic buildings. Conrad Celtis, the poet laureate, lived in his home for a period, and they exchanged Latin letters written in humanist style.⁹ He decorated his home with pictures of the muses, and late in life, as Hermann Schedel had done, he learned Greek. His own library was large, and important, and as a patron of literature with his relative, Friedrich Kammermaister, he financed the translation into German of Meisterlin's Latin chronicle of the city of Nuremberg. In 1493 he also financed the writing of the lost *Archetypus Triumphantes Romae* by Peter Danhauser, a humanist poet, lecturer and historian and its illustration by Sebald Gallendörffer. Schreyer it was who probably at Schedel's inspiration conceived the idea of publishing a great world history with illustrations. Koberger had just completed in November, 1491, the *Schatzbehalter*, an old-fashioned religious work with fine gothic illustrations by Michael Wolgemut. A month later after its success was assured, Schreyer and his brother-in-law, Sebastian Kammermaister, concluded a contract with Michael Wolgemut, the illustrator of the *Schatz-*

⁹ Schreyer evidently published for Celtis, *De Felicitate, Norimbergae*, 1501, a one-page hymn in praise of St. Sebald with a picture of the Saint and the arms of Schreyer and Celtis. The picture has been attributed to Behaim and to Wolgemut, and most recently to Dürer. See Willi Kurth, ed. *The Complete Woodcuts of Albrecht Dürer*, New York, [1936], p. 25 and plate 169. The Celtis arms include the moor's head used by Schedel and also used by Dürer as a crest, *ibid.*, plate 327.

behalter, and his step-son, Wilhelm Pleydenwurff, in which they agreed to publish an illustrated world chronicle already begun. Neither the author, the translator, nor the printer was involved in this agreement, and it is safe to infer that Schreyer had to make an adequate financial arrangement for illustrations before the book could be published. The fact that the original manuscript is arranged so that the text definitely fits the pictures complicated Schedel's problem, but the artists worked in his library and some of the original sketches are his own, or are by Alt or the unknown doctor who edited the *Europa*. The choice of Schedel as author probably rests upon the fact that he seems to have been at work on the *Chronicle* for at least three years, and had probably inspired Schreyer to be his promoter. They were neighbors,¹⁰ and Schedel was a fellow officer of the cathedral. The choice of Koberger as printer was natural since he had published the *Schatzbehalter* with Wolgemut's illustrations, and had also published Schreyer's revision of the city laws.

Michael Wolgemut was godfather and master of Albrecht Dürer, who had just left his shop, and his stepson was the son of Hans Pleydenwurff, a famous painter. Together they ran, not a studio, but a workshop for the manufacturing of works of art, from altar pieces to playing cards and book illustrations. The work of the two men is inextricably mixed, and recently it has even been questioned that the Peringsdorfer Altar is the work of Wolgemut — hitherto regarded as his masterpiece. For this reason authorities on art, such as Franz Stadler, have found it difficult to assign the illustrations of the *Chronicle* to either artist or to their apprentices. These illustrations partake of much the same character as the text in that some are adaptations of earlier works, but unlike the text they are gothic, except when their prototypes are

¹⁰ Most of the men concerned with the *Chronicle* were immediate neighbors, except for Koberger. As Oscar Hase pointed out, the Koberger family sold its property in 1552, and it was last sold in 1862 after having belonged to the Haller family for three generations (not after having belonged to the Koberger family for four centuries as according to Bullen, *op. cit.*, p. IX.).

humanist. This has led to unfortunate misconceptions, for the text has been judged mediaeval when interpreted through its illustrations. The pictures of Venice, Rome, Rhodes, and the frame of the picture of the Lord as creator, are adaptations from the illustrations of Bernhard von Breydenbach's *Peregrinatis in Terram Sanctam*, published in 1486, as is also the picture of Mainz, reprinted as several other cities. Ironically enough, the picture of Mohammed II is an adaptation of Pisanello's medal of John Palaeologus made at Ferrara in 1437 when the Emperor visited the Council of Ferrara to appeal for help against the Turks. The medal was the first of many Renaissance portrait medals, and as such is the one piece of Renaissance art definitely used by Wolgemut and Pleydenwurff.¹¹ The illustrations, The Lord as Creator, and The Last Judgement seem to be adaptations of illustrations from the *Schatzbehalter*, the latter being especially interesting since it is a much more finished product than its prototype.

Another startling characteristic is the number of repeated cuts. Sydney Cockerell at the end of the last century counted them for the first time, using the copy of the first edition then owned by William Morris. Unfortunately he published only a summary of his findings, and it is difficult to follow his classifications. A classification based upon the original manuscript would be much more accurate, for many spaces were filled only with cryptic descriptive words such as *hertzog* or *koncily*. Mr. Cockerell's total number of repeated cuts is 1,164, but I have found at least one more, for half of the great picture of Magdeburg is used again as Paris and as Tarsus. Mr. Cockerell's grand total may also be incorrect, for according to my computations there are eight more than 1,809 cuts. This may be accounted for in part by the fact that when the first and second editions were compared, what proved to be two or three cuts in the second edition appeared as one in the first. The work of comparison also revealed the fact that there are varia-

¹¹ A convenient illustration of this medal is in E. P. Cheyney. *The Dawn of a New Era*, New York, 1936, figure 48.

tions between copies of the same edition, and that the second, or German edition, published within six months, has three fewer cuts than the first edition, and those cuts which are repeated often are liable to differ from those in the first edition.¹²

This German edition, *Das Buch der Croniken und Geschichten*, is a translation made by Georg Alt, another humanist, who came from Ulm and Augsburg to Nuremberg, where he was an official in the city chancery. He has been perhaps mistakenly identified as the person who finished the last portion of the Latin edition, for Haitz found what is obviously his handwriting only in a portion of the index of the original manuscript, and his translation does not include Schedel's final revisions of the whole manuscript made after it was completed. The book was translated as it first

¹² For illustrations of the first edition, the University of California and the Stanford University copies were compared, as were also the three Library of Congress copies. No two are alike, although no copy is the complete antithesis of another. Eight points listed as found in the copy of Mrs. Sherman Haight of New York are:

Folio XVIII (verso). The crown of the first regalia is to the right, not the left.

Folio XXIII. The crown of the first regalia is to the left, not to the right.

Folio XXX (verso). The picture of the crossing of the Red Sea is at the bottom of the page, not the top.

Folio XXXI. The large initial is a *U* not an *N*.

Folio CXXXIII. Lacks an initial *G*.

Folio CLX (verso). Pope Constantius (not Pope Gregorius Tercius) holds an open book.

Folio CXCI is misfoliated XCIII.

Folio CCX (verso). The frame of the picture of Damiana is broken so that the top line is unattached, and there is an extra unattached line at the left. In the Library of Congress copy no. 2, and the Stanford University copy these two lines are one. The Library of Congress Vollbehr copy has no line across the top. In The Grolier Club copy, and Library of Congress copy no. 1, there is just an unattached line at the top.

A ninth variant is found on the leaf bound in the Stanford copy of Mr. Bullen's *The Nuremberg Chronicle*, and more recently in the Library of Congress copy no. 1:

Folio CLVI (verso). Pope Bonus (not Pope Leo Secundus) holds a book.

My count of the number of illustrations in the first edition is based upon the Stanford University copy. At the same time with this copy of the first edition there was compared the Stanford University copy of the second edition, and a copy of the third, an Augsburg edition, belonging to Mr. Carlton J. Byrne of the University faculty. My total number of cuts for this third edition, see text, *infra*, is based upon Mr. Byrne's copy. Thomas Dibden, *op. cit.*, vol. 3, p. 255, claims that there are 2,250 pictures in the *Chronicle*, and he bases his statement on a catalogue of them belonging to Mr. G. V. Neunburg. Perhaps this refers to the total number of separate figures and pictures in the cuts.

came from the compiler's pen, and the work was one of popularization, omitting antiquarian notes, references to authors, poetic flights, and titles which would seem strange to his readers.¹³ Two years later Alt also translated Conrad Celtis's description of Nuremberg.

The apparent excellent reception of the first two editions of the *Chronicle*, both large royal folios, led Schreyer to make a contract for a reprinting to be edited by Conrad Celtis. However, another printer, Johann Schönesperger, of Augsburg, decided to bring out a small folio edition and capture the market. The first, in German, appeared in 1496, and was followed by a Latin edition in 1497, and another German edition in 1500.¹⁴ These seem to

¹³ Like the first edition, the second is often catalogued by the title-page to the index, *REgister Des | buchs der Cro- | niken vnd geschichten | mit figurē vnd pildnüs- | sen von anbegiñ der welt | bis auf dise vñsere Zeit*. (Hain, 14510.) The correct collation seems to be ten unnumbered leaves for the register, and *Blats* I-CCLXXVI for the text, with one printed and one blank leaf to complete the signature. This volume also lacks printed signature marks. The untrimmed copy would probably be as large as the largest Latin or first edition copy, although none of full measurement have been seen. The same unwatermarked paper and the same six watermarks appear as in the first edition. The gothic type for the text of the second edition is different from that used in the first edition, and only a two-line initial is used. Konrad Haebler, *op. cit.*, p. 73, no. 24, and initial no. b. The book also has spaces for illuminated initials. Alt did not translate all of the first edition, the great omission being much of the *Europa*. According to the final colophon the book was completed December 23, 1493, and Schedel is nowhere mentioned. The other German editions also omit his name, and in consequence eighteenth-century bibliographers considered Alt the author. For example, see J. Z. Gleichmanni. *Spicilegium Scriptorum Reformationis Historiam Illustrantium*, in *Acta Eruditorum*, 1729, p. 142.

¹⁴ The first Augsburg edition, 1496 (Hain, 14511), has a true title-page: *Das buch Der | Croniken vñnd [sic] ge- | schichten mit figu- | ren vnd pildnüs- | sen von Anbeginn | der welt biß auff | dise Vñsere Zeýt*. There are folios numbered, I-CCLXXVI, CCLXXXVI-CCCX, CCCVI-CCCXXII, and a register of twelve leaves, the last of which is blank. The signatures of the text vary from four to six leaves, *a-KK*. The paper is poor and ordinarily unwatermarked as in Mr. Byrne's copy; but Miss Helen M. Bruner, Librarian of the Sutro Branch of the California State Library, San Francisco, has found in the Sutro copy two examples, both variants of the watermark which appears in the second Augsburg edition, viz. in leaf LXXXIX, sig. iiii, and in leaf CCCVI, sig. HHi. In this first Augsburg edition, two gothic types were used, one for the text and one for the titles and running page head; but there were seven styles of initials, one nine lines, five three lines and one two lines high. See Konrad Haebler, *op. cit.*, p. 6-7, nos. 9, 4, b, d, l, h, and i. Two *M*'s were not found by Herr Haebler, one 13 mm. high without center pearls of no. h(CCXCIX) and one 11 mm. high without the bottom cross line (X).

have stopped Schreyer's third edition, and satisfied the market. Schönesperger is known to have copied several other books, including two others which had appeared first from the Koberger press.¹⁵ These Augsburg editions of the *Chronicle* are not literal copies of the originals, but were slightly modified (by someone who seems to have been a cleric) by additions of pious expressions. The illustrations were reduced and redrawn, and are very inferior. However, unusual pains were taken, for since the pictures were fitted to the text, and a double column layout was used, it was possible to add portraits of people mentioned in the text for whom there had been no representation in the Nuremberg editions. The great family trees which had featured the Nuremberg editions were represented by individual portraits, and the consequent additional cuts make a grand total of 2,165 cuts in the first German Augsburg edition. As in the case of the second Nuremberg edition, the changed illustrations of the second Augsburg edition are those pictures which were often repeated.

The second Augsburg edition, 1497 (Hain, 14509), likewise has a true title-page: *Liber cronicarum | cum figuris et yma- | ginibus ab inicio mū- | di usq3 nūc temporis*. There are numbered folios, I-CCCXXXVIII, a blank leaf, two printed leaves for the map, and a register of twenty-six leaves, including one blank leaf to complete the last signature. The signatures for the text run from *a* to *OO*, and there are marks for the register, 1-17. The watermark found in the four Library of Congress copies is a circle or globe, surmounted by a cross, tipped with a star. Miss Bruner noted at least three variants in the Sutro copy. The watermark is not specifically cited by Briquet, *op. cit.*, but is similar to no. 3057, vol. 2, p. 209-210. The copies of this edition have not been examined for type.

The third Augsburg edition, 1500 (Hain, 14512), has the same title-page as the first Augsburg edition. The numbered folios are I-CCCXVII, a blank leaf to finish the signature, two printed leaves for the map, and twelve leaves for the register, one being blank. The signatures for the text run from *a* to *KK*, one is unlettered for the map, and there are signatures *a* and *b* for the register. Watermarks include a scales in a circle, tipped by a star, the outline of a bull's head, also with a star on a line rising from the forehead, and a crown with an ornamental superstructure, none of which are specifically cited by Briquet, *op. cit.*, but they are similar to no. 2449, vol. 1, p. 185, no. 15254, vol. 4, p. 765, and no. 4890, vol. 2, p. 296. In the Library of Congress copy there also appears an example of the watermark in the 1497 edition (Blat XXXVI). The copy was not examined for type. All the Augsburg editions are small folios (not quartos as sometimes described).

¹⁵ Schönesperger copied Koberger's illustrated Bible of 1483 (Hain, 3137) in 1487 (Hain, 3139) and 1490 (Hain, 3140); and also *Die Reformation der Stadt Nürnberg* of 1484 (Hain, 13716) in 1488 (Hain, 13717) and 1498 (Hain, 13718).

In 1509 the publishers or representatives of Schreyer, Kammermaister, Wolgemut, and Pleydenwurff settled accounts, and from this settlement, published by Friedrich Kapp, we learn much about the *Chronicle* and about the book trade in general. In the first place 485, or the majority, of the unsold copies were Latin editions in bookstores in Northeastern Europe, where the Renaissance was not a great success, or in Italy where the French and the Empire had been struggling, and where Schedel's Imperial ideas must have been offensive. The rest were in Leipzig where there was a quarrel with a dealer. The popularity of the German edition is further evidenced by the fact that Schönesperger reprinted it a second time. This settlement furnishes evidence of the assertion that most books in the fifteenth century were sold unbound, for only forty-seven copies of the unsold books were bound, and of these thirteen had been illuminated in Wolgemut's shop. The unbound and unilluminated *Chronicle* was expensive, costing two Rhenish gulden, or as books sold in those days, sixteen quinternions, a gulden, while the bound and illuminated copy sold for six Rhenish gulden. Translated into our own money, these prices would be about twenty-six dollars and seventy-eight dollars, respectively.

Anton Koberger, the printer of the *Chronicle*, has been neglected in this discussion, but he ran the largest printing and publishing house in Germany, employing twenty-four presses and even hiring other printers to do his work, although in this case he himself was hired. Up to 1493 his books, usually folios, had been confined principally to scholastic and popular subjects. A papal bull of 1487 had forbidden the printing of the Bible in vulgar tongues, and within the letter of the law Koberger had supplied the religious demands of Germany by printing works which deeply reflect the Bible, such as the *Schatzbehalter*. Although Koberger can not claim true responsibility for it, Schedel's *Chronicle* was one of the religious books which helped lay the foundations of the coming Reformation, in so far as Schedel retold the story

of the Bible. Koberger printed large editions for his day, two of which are known to have consisted of 1,600 copies each. It has been said that the editions of the *Chronicle* were the largest that Koberger ever attempted, and the figure of 2,000 volumes for each edition has been suggested.¹⁶ The book was marketed through the channels of trade developed by Koberger, and in a sense the final settlement which we have discussed reflects the scope of his business, for we know that in 1495 he printed an advertisement for the *Chronicle*, one of the early publisher's blurbs now extant.

The terms of the contract under which the *Liber Cronicarum* was produced make it (I quote George Parker Winship):¹⁷

... the grand-daddy of ... the universal histories that have been put together by hack writers from that day to this for sale on the outermost fringe of the intellectual community, the perennial standby of the subscription book agents when they invade the land of the hicks and the sticks.

However, Schedel's book is more perfectly the ancestor of the scholarly monuments of *Weltgeschichte* produced in his own Germany. Despite the publisher's contract, the *Chronicle* lacks the commercial character of its American descendants, and it gave Mr. Winship "a feeling of uncertainty, or questioning as to" his "own aesthetic, book-loving presumptions" because it was a sincere attempt at historiography by its humanist compiler, and because of the care with which the magnificent, although somewhat imperfect, illustrations were prepared. Schedel and Wolgemut drew from a rich background, although Trithemius immediately noted the character of the book as a compilation in his *De Scriptoribus Ecclesiasticis* of 1494 (folio 139). This did not prevent the book from being reprinted by Schönesperger, or copied

¹⁶ There seems to be no authority for the figure. See E. P. Goldschmidt, *Gothic and Renaissance Bookbindings*, London, 1928, vol. 1, p. 37. Dr. Goldschmidt reproduces what he considers a possible original Koberger binding of the *Chronicle*, *ibid.*, vol. 2, plate XVII, whose central stamp is a geneological tree of Jesse similar to the illustrations of the book. He also discusses, *ibid.*, vol. 1, p. 37, another Nuremberg original binding. One may be by Jeronimus, the bookbinder mentioned in the final settlement.

¹⁷ His *Books as People*. Philadelphia, 1940, leaf 4 recto.

in part in the Venetian edition of Vincent de Beauvais' *Speculum Historiale* of 1494, in Sebastian Munster's *Cosmography* of 1556, or in other works noted by Haitz. The crowning tribute came in the last century, when German historiographers paid tribute to Schedel as the first historian of the new learning in Germany.

Principal Sources

- [Cockerell, Sydney C.]. *Some German Woodcuts of the Fifteenth Century*. [Hammersmith, 1897.]
- Haitz, Michael. *Hartmann Schedel's Weltcronik als Inaugural Dissertation*. München, 1899.
- Hase, Oscar. *Die Koberger . . . Zweite neugearbeitete Auflage*. Leipzig, 1885.
- Herrmann, Max. *Die Reception des Humanismus in Nürnberg*. Berlin, 1898.
- Kapp, Friedrich. *Geschichte des Deutschen Buchhandels bis in das siebzehnte Jahrhundert*. Leipzig, 1886, vol. 1, p. 766-769, for the publisher's settlement of June 22, 1509.
- Mummenhoff, ——. *Sebald Schreyer*. In: *Allgemeine Deutsche Biographie*. Leipzig, 1890, vol. 32, p. 492-493.
- Schedel, Hermann. *Briefwechsel (1452-1478) herausgegeben von Paul Joachimsohn*. Tübingen, 1893. In: *Bibliothek des litterarischen Vereins in Stuttgart*.
- Sprengler, Joseph. *Hartmann Schedels Weltcronik. Inaugural-dissertation*. München, 1905.
- Stadler, Franz J. *Michael Wolgemut und der Nürnberger Holzschnitt im Letzten Drittel des XV. Jahrhunderts*. Strassburg, 1913. In: *Studien zur Deutschen Kunstgeschichte*, heft 161.
- Stauber, Richard. *Die Schedelsche bibliotek*. Freiburg, 1908. In: *Görres-gesellschaft. Studien und Darstellungen aus der Gebiete der Geschichte*, band 6, heft 2 and 3.
- Wattenbach, W. *Hartmann Schedel*. In: *Allgemeine Deutsche Biographie*. Leipzig, 1890, vol. 30, p. 661-662.

PROBLEMS IN NINETEENTH- CENTURY AMERICAN BIBLIOGRAPHY

By ROLLO G. SILVER

IN the course of a paper prepared for this Society precisely twenty years ago, Dr. George Watson Cole reminded us that

The modern bibliographer may properly be called the anatomist of the book. If he would be successful in his vocation he must be thoroughly familiar with all that is to be known about the paper on which a book is printed, its quality, method of manufacture, and through what processes it goes in order to become a part of a book. . . . He must understand the art of printing. . . .

We have seen these principles applied with evident success to bibliography of the Colonial period. In the nineteenth-century field, however, we have been so occupied with the necessary ground-work of listing and locating texts that we have not had time to consider the perplexities inherent in them. If we are to progress from simple classification to knowledge about the processes of nineteenth-century American book-making, we must first answer the host of technical questions which have arisen. Our problem at the outset is to evaluate particular technological advances, with reference to their relationship and evolution at definite stages in the century. This problem initiates the need for a complete report on the materials used in book-making and the men who used them. Furthermore, it is necessary to trace the emergence of mass production as a power in altering the physical appearance of a book. What is peculiar and new to the nineteenth century is the rapid and conscious change of method in making a

book. The student must not be satisfied with simply cataloguing inventions without reference to the periods of experimental design which lie between. He must bridge the gap between the inventive idea and its product, and he must do so before his source material further diminishes. In this situation we can take advantage of two helpful factors. Because of the temporary closing of European collections students interested in bibliographical research will find it more convenient to work with American subjects. In our universities there are students trained in pure scholarship who could be a mine of effective collaboration if the problems could be presented to them.

This paper points to some of the problems which confront us and suggests the first step towards solution.¹

Our major need is the accumulation of detail on which rests our understanding of the processes of printing. At the beginning of the century the printer worked with equipment as cumbrous as his neighbor's ox-cart; at the end of the century he was the servant of a machine as slick and impersonal as an airplane. The interim between the two epochs is filled with confusion and discrepancy for the bibliographer, who must piece out the story between successive differences in rates of speed. To some extent the difference in speed accounts for the difference in the quality of the book.

The excellence of our early American bed-and-platen presses is shown by Joel Munsell's statement that importation had almost ceased by 1800. One of these, the Ramage press, was made of Honduras mahogany and later of iron. Ramage enlarged the diameter of the screw, faced the platens with brass, and imported and improved the Ruthven press. By 1837 he had manufactured over twelve hundred presses. Information about the Ramage

¹ A copy of this paper with notes on its source material has been deposited with the Permanent Secretary. The author wishes to thank Messrs. William A. Jackson, Hellmut Lehmann-Haupt and Lawrence C. Wroth for their aid in clarifying the problems discussed.

press is too widely scattered for reference. Mr. Milton W. Hamilton of Albright College has been assembling material about Ramage, but he writes me he is not yet ready to project a paper.

The transition from the screw to the lever was made by George Clymer's Columbian press, a development about which we know comparatively little. Every history of printing mentions Clymer's introduction of the lever. We know certain externals of his fame: most New York newspapers were printed on a Clymer press, it was used in the King of England's printing office, the Emperor of Russia enthusiastically presented Clymer with six thousand rubles, and the King of Holland and the King of Spain patronized him. But bibliographers await the answers to their questions: what inventions or ideas stimulated Clymer to introduce the lever? How did he arrive at the aptness of method which helped quicken the pace of printing in the early part of the century? We await a complete study of the life and work of this early expatriate.

A particular instance of our lack of certainty about simple facts is the mystery of the toggle-joint. Who made this next contribution to printing? Hoe implies that Peter Smith invented it in 1822; Oswald declares that it was invented by John J. Wells. However, there is a patent for a press granted Otis Tufts in 1813 which mentions a toggle-joint.

The orderly progress of printing bears within itself, as does all scientific invention, both change and permanence. It is probable that the most popular of bed-and-platen presses, the Washington press of Samuel Rust (later purchased by the Hoes), incorporated the latest devices to the extent that it suited the business needs of the book-trade of the eighteen-thirties. This cast iron and wrought iron press suited the environment so well that it was still being used for proofs almost a hundred years later. Many of the books we collate must have been printed on the Washington press. It is no exaggeration to say that until we know more about its sizes, operation, and distribution we can know little about the

American printing industry of the first half of the nineteenth century.

Even as the hand press flourished, printers occupied themselves with the obsession of the century — energy — and experimented with the rudimentary power press. According to the *American Dictionary of Printing and Bookmaking*, Jonas Booth of New York printed an edition of *Murray's Grammar* in 1823 on a machine press constructed after the principles of one he had seen in England. Booth, by the way, was one of the first Americans to use composition rollers. An historically early power press was the one-horse-power contraption built by Phineas Dow for Daniel Treadwell and set up in Boston in 1827. One must note here that while the energy for Boston's first power press was supplied by a stalwart Canadian horse, New York was, as usual, behind New England in culture and refinement. The energy for New York's first power press was, it seems, supplied by a mule.

In 1830 two of Dow's employees, Seth and Isaac Adams, began the manufacture of the most popular of early power presses. Over one thousand Adams presses in fifty-seven sizes were produced. Their decline in popularity emphasizes two important bibliographical points: as soon as printers found that press work could be saved by imposing twelves as sixteens and twenty-fours as thirty-twos, they looked for a press which could fulfill this requirement. The Adams press could not; and, moreover, electrotyping had provided a plate strong enough for use in cylinder presses.

This broad view of the spread of printing must not obscure the fact that there is a distinction between the date of invention of a press and the date of its general use in printing houses. We must emphasize the point that there was a modifying period of preparation to be undergone before the novel appliance could be accepted. We know that power presses were used in 1827. Yet ten years later Harper & Brothers possessed thirty-seven hand presses and only one power press. The first power press in Chicago was set

up in 1843, yet in 1852 the city contained only one more such press.

The cylinder press was even slower in becoming generally employed. 1796 is the earliest date for a patent for a cylinder press in America, but whether Apollos Kinsley's press was ever used is still in doubt. Patents for cylinder presses were also filed in 1811 and 1829. America's adaptation of the cylinder press actually began when Major Mordecai Noah imported a Napier from England in 1829. The freight charges and duty were so high that the Major was forced to leave the machinery in bond. Another editor bought it, and Robert Hoe was called in to assemble it. The Hoes, with their customary habit of imaginative adaptation, produced cylinder press after cylinder press, improvement after improvement. Yet the cylinder press was not in general use in the book-trade until the middle of the century.

I do not need to say that the trend of the development of printing in nineteenth-century America was regulated by the House of Hoe. In the hands of Hoe's brother-in-law, Peter Smith, Sereno Newton, and others of the firm, the self-evolving process of invention was given a direction which infected many admirers. The value of their achievement necessitates an authoritative history, for which a beginning has been made by Stephen D. Tucker. Unfortunately this history exists only in typewritten copies. In our study of the Hoes we are confronted with a situation which will become more prevalent the longer we wait. Most of the business records of the firm were destroyed; only those from 1870 still exist. Here we may perhaps find out who bought the presses, the price, terms of sale, and dates of installation. Such is the stuff of bibliography.

There remain the other manufacturers of cylinder presses — Campbell, Taylor, Cottrell, Potter, and the inventor of the rotary perfecting press, William Bullock. Will the time come when their contributions will be evaluated?

Stereotyping is another technique of which the date of introduction in America is vague. John Watts's edition of *The Larger*

Catechism, New York, 1813, is probably, as the title-page states, "the first book ever stereotyped in America." Traditional histories tell us that David Bruce introduced the art when he returned from London in 1812 or 1813. But in the *Typographical Miscellany*, Joel Munsell quotes an article from *The Long Island Star* of October, 1811. This article announces the establishment of a manufactory of printing presses in New York by Mr. Francis Shield of London. "Mr. Shield," the article states, "is also in possession of the art of taking stereotype plates, and has specimens in his possession." Further investigation may corroborate what seems to be a new date for stereotyping in America and Mr. Shield may finally receive the credit for its introduction. Still, we owe to David Bruce's invention of the planing machine the rapid and full development of the profession. There was a decided lag in the use of stereotyping in the small cities. While New York had five stereotypers in 1820, and eight or nine in 1830, there were no foundries in Syracuse, Troy, or Utica before the Civil War and only one in Rochester. In New York plates were freely used for books and advertisements in 1840, but the first stereotyping plant in Providence was established in 1881.

Dr. George A. Kubler of New York is preparing a history of stereotyping for which he has searched libraries all over the world. This history which will contain the results of twenty-five years of research will, however, be written for professional stereotypers and will be limited in its scope.

Many of us who have attempted to collate a nineteenth-century book have often wished that some enthusiastic electrotyper might follow Dr. Kubler's example. At present the bibliographer who tries to find out about electrotyping history and methods becomes lost in a maze of technical formulas. And such terms as Smee battery, resistance board, and Voltaic battery conquer our bibliographical curiosity. A collaboration between a technical expert and a bibliographer might tell us what we want to know about electrotype plates: how and when they were used in book

production, the cost of preparing them, storage facilities for the plates, the relationship of electrotyper and publisher, and, of course, electrotyping and imposition.

The unusually large number of signatures which are found in some American books must be accounted for. If this was due to the fact that the book was first printed, then stereotyped and then electrotyped, information must be made available.

Then, still more important to the bibliographer is the study of type-setting and type-founding. It is to be hoped that Dr. Wroth will continue his study of the work of Dr. William Church. There are other unmonographed men, like William Mitchell, the inventor of the first practical type-setting machine, who deserve our attention. Before 1900 over two hundred and eighteen American patents for type-setting machines were issued and our skill made New York City the first in the world in which type was set by machinery. The acceleration of invention, of course, came during the final half of the century. Thus the impetus given to printing by a small group of pioneers resulted in a steady and expected advance in ratio with the growing social need.

Characteristic of a century which permanently substituted mass production for individual effort is the story of the type-founding industry. We are aware of the huge combine which overshadows the names of the individual type-founders. These men, who worked in such cities as St. Louis, Albany, Baltimore, Buffalo, Pittsburgh, Cleveland, Chicago, and Cincinnati, will in time become anonymous if they are not soon rescued from oblivion. There is the enterprising Elihu White, who began founding type in Hartford in 1804 and in 1810 was the only type-founder in New York City. As far as we know, White ran an independent business, but later men like him were forced by the price war of 1885 to form the American Type Founders Company. An analysis of this organization would reveal the widespread geographical distribution of the industry.

Let me carry one more coal to Newcastle and suggest an ex-

amination of nineteenth-century book illustration. Here again the need is not only an analysis, but a study of the antecedents and results of a fast moving and revolutionary subject. Investigations in this field are beginning. Professor Lehmann-Haupt writes:

Three of my students in the Library School, independent of each other, have chosen a subject in the field of photo-mechanical reproduction. One of them is making a bibliographical study of facsimile editions of books; another one is interested in the use of photographs as book illustrations in the first hundred years since the invention of photography; a third one is considering an evaluation of the comparative merits of photographic reproductions used in art books. As a result of these three converging interests, we are also trying to tackle some solution of that ticklish and complicated question: In what order have the various photo-mechanical processes been developed and in what order have they been applied in book production and illustration?

When we leave technology and come to materials, we find, as we are beginning to expect, that the materials which go into the book have been similarly ignored. Within its limitations the study of paper can strengthen the direction of bibliography by giving us a constant inductive tool. The foregoing discussion has been centered on some of the modifications of the printing process. In its essence the expansion of paper-making is analogous to nineteenth-century printing. Early in the century the printer had at his command a handsome and sturdy American paper. But soon the demand far outran the supply. Before long the force of mass education and mass production started the degeneration of rag paper into the thin and sleazy pulp. The rise in the scale of education brought with it the familiar evils of competition and cheapening of product.

Our factual information about paper-making consists of the cursory history by Weeks and several published studies of individual mills such as the Willcox Mill and the mills at Newton Lower Falls. Miss Marie Dickoré of Cincinnati who is studying the mills of the Little Miami Valley has located the site and the year of the first paper mill in Ohio and has found some of its water-marked paper and much of its regular paper. This paper,

Miss Dickoré says, "was used in printing some of the laws of the Northwest Territory and the newspapers of that period besides some of the well-known books of that time." Mr. John Anderson of the Queens Borough Public Library, New York City, is making a study of paper-making on Long Island; and Mr. Marvin A. Miller is preparing a work on the whole subject of paper-making in the United States.

Nineteenth-century American bookbinding has at present but one acolyte. Mr. J. W. Rogers is enlarging his article, *The Industrialization of American Bookbinding*, to include his new findings. This will appear in the spring as part two of a volume on bookbinding. The first part is a thorough survey of bookbinding by hand in Colonial America and the young Republic by Miss Hannah Dustin French of the Wellesley College Library. The third part, by Professor Lehmann-Haupt, deals with the rebinding of old volumes. Apart from the bibliographical importance of cloth the study of bookbinding could be expanded to include antiquarian aspects. Mr. Jackson has pointed to the fascinating field of shingle-board bindings. Perhaps some of the more romantic of us may set out to find an actual instance of a man who took a shingle from his house to bind a book. But the realist must forego such a luxury until he has made coherent a subject still so discrete and fragmentary.

In this paper I have assumed that we must believe that the investigation of any method and material used in making a book can be of help to bibliography. Might not the study of ink help us in identifying reprinted signatures or in dating an inscription? This might seem exaggeration to most of us, but at present very little knowledge of nineteenth-century ink has been organized for the bibliographer. The discovery of coal-tar colors in the middle of the century introduced new features into the printing trade. Gamble's *List of References on the Chemistry and Manufacture of Writing and Printing Inks* is, of course, our starting point.

Any consideration of printing must include, happily enough,

the men who laid the foundation for its development. The nineteenth-century American printers were practical men whose lives were significant to the community as well as to the craft. Information on these men and the atmosphere in which they lived is becoming available. Joel Munsell, the printer-historian, is being studied by Mr. David Edelstein of New York. Here, for the first time, we shall have the complete story of Munsell's week in jail where he went rather than disclose the authorship of a supposedly libelous pamphlet which he had published. Much information about nineteenth-century printers is turning up in a check-list of books illustrated by Alexander Anderson which is now being prepared by Miss Helen Knubel and Mr. Lawrance Thompson. Is anyone studying Daniel Fanshaw, who installed some of the earliest power presses in his book office, printing most of the books of the American Bible Society? Fanshaw, by the way, was one of the few printers who ever accumulated a million dollars. Other enterprising men were C. A. Alvord, in his day unsurpassed for handling the wood-cut, Isaac Ashmead who introduced the power press in Philadelphia, John F. Trow who introduced the Mitchell type-setting machine, and, of course, Theodore De Vinne. Then there is the mystery of the autobiography of T. H. Carter, the Boston printer. Several books have mentioned and quoted from this autobiography, but I have found no one who can locate a copy. I have cited only a few names; any thorough study of the nineteenth century will have to be based on such contributions as Mr. George McKay's *Register of Artists, Book-sellers, Printers and Publishers in New York City 1801-1820*, an example which, we hope, will be copied in other cities.

Before 1840 more than twenty different cities had organizations of printers, yet we know about only a few of these organizations. The records of an organization give an excellent picture of the trade (see, for example, *Book and Job Printing in Chicago*, and *Printers and Printing in Providence*), by showing the struggles over wages, over the separation of the crafts, the problems of hours,

and the entrance of women into the industry. Organizations of employing printers must also be studied. The only recent work in this field has been *The Origin and History of the New York Employing Printers' Association* by Charlotte E. Morgan.

I have sketched rapidly what seems to be the haphazard state of the technological history of the last century. This dominant tone is repeated in the histories of the publishing houses of the time. They are usually nothing but a poor compromise between a pedigree and an advertisement, often having been issued for an anniversary celebration. Their extreme subjectivity blurs the character and intentions of the publishing house. If we are to throw light on the prevalent methods of commercial printing on a large scale we must strive for the complete and impartial history of each individual firm. One of our needs is a list of the successive imprints of each house with the devices used at the time. A step in this direction is being taken by Professor Anne M. Boyd of the University of Illinois, who is preparing a list of American publishers with historical data. As this list is intended as an aid to book selection only, no attempt is made to list every imprint, or to describe the devices.

Another opportunity to increase our technical knowledge is offered by one incident in the history of Harpers. When they were burned out in 1853, they built a new plant the following year. A study of this plant would afford a complete picture of the latest equipment available to the publisher of 1854.

The small town publisher has been a fruitful subject for the researches of Barrows Mussey and Milton W. Hamilton, whose *Country-Printer New York 1785-1830* will be followed by a study of Vermont journalism now being prepared.

There is one topic which is entirely dependent on information gathered from the files of the publishers themselves, namely the relationship between author and publisher. But lack of co-operation has hindered the student in his search. Requests for information usually bring replies such as: "Our records are rather inti-

mate and cannot be seen," or "They are only available for accounting purposes." Perhaps the publisher uses these reasons to avoid saying what he really means. If he would tell the truth, he probably would write: "We realize that records one hundred years old should be made available to accredited students. However, to get at the records is very expensive in time and trouble. We have had so many requests about various authors that we are sick and tired of being bothered." One cannot blame the publisher; he is quite right. But if bibliographers are to know the complete story of the nineteenth-century book-trade, they must have some of the information which is in the files. The longer bibliographers wait, the fewer will be available records.

I should like to suggest a method by which an accredited investigator, under conditions established with the individual publisher, would be allowed to see relevant records. Would it not be a good idea for the Society to act as the medium? Such a course would have two advantages: the publisher would only be requested to do this for worthy projects and the Society would have the benefit of competent investigation.

The most feasible plan might be to have a small committee at the service of scholars who are attempting to secure bibliographical information. By its very existence the committee would stimulate investigation of the problems discussed in this paper, and might act as a clearing-house to integrate information for nineteenth-century bibliographers. The concentrated effort of a group ready to give an impetus to the student will facilitate preparing the many particular articles which have to be written before a general study can be made.

In this paper, in order to select apposite references to the impact of science upon the making of a book, I have stressed the factual-historical bias. But I realize that we cannot think in terms of infinite detail alone. Let us wait patiently, but not too long, for a general definition of the principles of nineteenth-century bibliography.

On the reference shelf next to our desks McKerrow's *Introduction* and Wroth's *Colonial Printer* stand side by side. Next to these two volumes there is an empty space which seems to grow wider every time we look for the book which ought to be there. Members of The Bibliographical Society, is it not time that we begin to think about a manual of nineteenth-century bibliography?

TAHITIAN IMPRINTS, 1817-1833

By GEORGE L. HARDING

THE last quarter of the eighteenth century was a period of great change in the affairs of men. Not only was it a period of political and social upheaval such as the French Revolution and the revolt of the English colonies in America but also a period in which an evangelical revival infused new life and new spirit into the moral and spiritual forces of the civilized world.

The earliest expression, in England, of obligation to the untold millions of heathens, brought to public attention by events in India and the voyages of Captain James Cook, appears to have been a pamphlet published in 1792 by William Carey. A group of Baptists undertook to support Carey on a foreign mission and, in June of the following year, he and one other sailed for mission work in India — the vanguard of a long line of English missionaries.

The effect of Carey's departure on the minds of his countrymen was profound. As a result, in 1795, The Missionary Society, an interdenominational association, was formed; its members being any "persons subscribing one guinea or more annually," and the islands of the South Seas picked as the field of its first endeavors. On August 10 in the following year, the ship *Duff*, Captain James G. Wilson, with thirty missionaries aboard, sailed from London for the islands of the Pacific. Only four of the missionaries were ordained ministers; the others were craftsmen, chosen in the naïve belief that the natives would soon see the advantages of civilization and desire to learn trades.

After a long but uneventful voyage, the island of Tahiti was sighted on the distant horizon on March 4, 1797. Captain Wilson and his missionaries went ashore on March 7 and were met on the beach by the king of the island and a retinue of followers. Upon learning, through a castaway sailor, who had been on the island some two years and who acted as interpreter, that a number of the newcomers expected to take up permanent residence among his people, the king, who was known as Pomare II, was so pleased that he not only gave them the house to which he had conducted them but, in a formal and official manner, ceded to them the entire district of Matavai in which the building was situated.

The departure of the *Duff* brought no change in the attitude of the natives but it was soon apparent that, whatever were the advantages the king and his chiefs expected to derive from the newcomers, they were not influenced by any desire to receive either religious or general instruction. As the months and years went by, the king continued to maintain his friendship but showed no interest in the teachings of the missionaries. The latter made their trips about the island, teaching and preaching to all who would listen, but they made no converts.

During this period the chief occupation of the missionaries was their study of the native language. In this they had no outside aid for it was soon learned that the few notes on the language that had reached the civilized world were either too meager or too erroneous to be of any assistance. The language was entirely oral. Neither alphabet, grammar nor dictionary existed. As Tahitian was the first of the Polynesian languages to be reduced to writing, they had to determine upon an alphabet, form its orthography, and reduce to a system its grammar. To master the language proved a tedious and laborious task. However, its acquisition was essential and, under the leadership of Henry Nott, who early displayed a special aptitude for the work, progress was made.

In 1808 there was a general uprising against the king, led by a chief who had a great reputation as a warrior. The king expected his camp near Matavai to be attacked and suggested to the missionaries that they take refuge on board a passing vessel that had providentially dropped anchor in Matavai Bay. After serious discussion as to the course they should pursue, and after unsuccessful attempts to arbitrate the differences between the king and the leaders of the rebels, all the missionaries except four — who were unmarried — sailed with their families on November 10, 1808. In the following month the king was disastrously defeated and forced to flee the island. The four missionaries who had remained, fearing their fate in the hands of the rebels, fled to the island of Eimeo, where they were soon joined by the king. The buildings and plantations at Matavai, on which they had lavished so many years of toil and care, were burned and destroyed. It appeared the mission to the South Seas was at an end. After almost twelve years of labor, in exile, with their settlement in ruins, they had not a single convert to their teachings to reward their efforts. Two of their number decided to stay and the others returned to Sydney. Those who remained were Henry Nott, with the king on the island of Eimeo, and James Hayward, on the island of Huahine.

Taking advantage of his enforced leisure, the king applied himself to learning more of Nott's effort to reduce Tahitian to writing. Quick to learn, Pomare not only extended his own abilities but added greatly to Nott's knowledge of the language. At the king's request a few of the missionaries returned from Sydney and a school was established. Several of the king's followers undertook to learn to read and write. In July, 1812, Pomare II, King of Tahiti and Eimeo, professed publicly his belief in the God of the missionaries and his determination to serve Him. Pomare did not insist on any of his followers taking the same step but he immediately stopped, in so far as he himself was con-

cerned, all the old customs and taboos which he considered inconsistent with the teachings of Christianity.

In the three years that followed the affairs of both the king and the missionaries improved rapidly. By means of alliances with the chiefs of Huahine, Raiatea, and Borabora the king collected on Tahiti a considerable armed force and, in November, 1815, decisively defeated his enemies in a fierce battle near the village of Puna-auia.

Up until this time the missionaries, in their letters and reports to the Society at home, had discouraged the sending of new missionaries to their field because so little had been accomplished. Now the situation was to be completely reversed. By the year 1817 there were only eight on the effective staff of their one station located near Papetoai, on the island of Eimeo, and every letter home was filled with appeals for more workers.

In their teaching efforts the missionaries were greatly handicapped by the lack of printed material in the Tahitian language. A few things had been printed for them, based on manuscripts they had prepared, but the editions were small and soon exhausted. John Davies, one of those who left Tahiti in November, 1808, at the time of the rebellion against the king, carried with him to London the manuscript of a small spelling book. This was printed, in London in 1810, as a forty-eight page duodecimo by the Missionary Society. It was the first attempt at printing in a native language of Oceania.¹ One copy only of this little book is known to exist today. It is in the collection of a private collector of Oslo, Norway. In 1813, George Howe, the pioneer printer of Australia, printed, at Sydney, a small pamphlet of ten pages for the missionaries. It consisted of thirty-nine texts from the Scriptures and nine hymns, all in Tahitian.² The Sir George Gray Collection, in the South African Public

¹ *Te Aebi No Taheiti. E Te Parou Mata Mua I Parou Hapi Iaitea Te Perini E Te Ridini Te Parou No Taheiti.* London, Printed for the Missionary Society. By Townsend, Powell and Co. Crane Court, Fleet Street, 1810.

² *Parau No Tahiti.* [Sydney, 1813.]

Library, Cape Town, contains the only known copy of this pamphlet.

In the following year, 1814, Howe printed an abridgment of the New Testament, in thirty-five chapters, from a manuscript prepared by the missionaries. It was a small octavo of seventy-six pages and a title-page.³ In the year 1815, Howe printed five titles for the missionaries: a hymnal, a catechism, an Old Testament history, a spelling book, and a collection of reading lessons.

In February, 1817, the brig *Queen Charlotte* dropped anchor in the harbor of Taloo, near the missionary station at Papetoai, on the island of Eimeo. On board was William Ellis, with his wife and small daughter, who was born on the voyage out from London. The disappointment of the missionaries on learning there was but one addition to their ranks was turned to delight when they found he had brought with him the materials of a printing-office.

It was decided that a second station should be built, at least temporarily, on Eimeo; and Afareaitu, on the opposite side of the island from Papetoai and directly across from Tahiti, was chosen as the site. As the new location was more convenient to Tahiti than the old, it was thought best that the printing press be set up there. Accordingly, on March 25, Ellis, and two others, with their families and the printing equipment loaded in native canoes, set out for Afareaitu, where they landed the following day. The natives of Afareaitu and the neighboring districts felt honored by their coming and set to work to provide them with houses and to make them comfortable.

William Ellis, in his *Polynesian Researches*, first published in 1829, has left us his own delightful account of the building of the printing-office, the assembling of the press, the setting in type of the first pages of an elementary spelling book on June 10, and

³ *Parau No Iesu Christ Te Temaidi No Te Atua; E No Te Mou Pipi Nona*. Sydney, Printed by G. Howe, 1814.

the pulling of the first sheets from the completed form on June 30 by the king himself.⁴ He adds —

When the benefits which the Tahitians have already derived from education, and the circulation of books, are considered, with the increasing advantages which it is assumed future generations will derive from the establishment of the press, we cannot but view the introduction of printing as an auspicious event. The 30th of June, 1817, was, on this account, an important day in the annals of Tahiti; and there is no act of Pomare's life . . . that will be remembered with more grateful feeling than the circumstance of his printing the first page of the first book published in the South Sea Islands.

In all the vast territory that lay between Mexico City and Lima to the west and Amacusa, in Japan, and Manila to the east, out-posts established in the sixteenth century, the first printing press was that set up by William Ellis on the island of Moorea, then called Eimeo. When Ellis, in 1817, printed his first spelling book in the Tahitian language, the second mission press, that at Honolulu, was five years in the future; seventeen years were to pass before Captain Agustin V. Zamorano announced the opening of a printing-office at Monterey in California; and twenty-two years before Edwin Oscar Hall set in type, at Lapwai, the first book to be printed in the Oregon Territory. By 1817, printing had advanced only to St. Louis on its westward course across the United States.

Following the spelling book, a Tahitian catechism, and a collection of texts from Scriptures were printed. Of these three first titles printed — each of which was issued in an edition of about twenty-three hundred copies — but one copy of the catechism is known to exist today, in the library of the British and Foreign Bible Society, London.⁵ With elementary teaching tools provided, St. Luke's Gospel, the translation of which had been completed by Henry Nott, was put to press.

⁴ William Ellis. *Polynesian Researches During a Residence of Nearly Eight Years in the Society and Sandwich Islands*. London, 1829. Second Edition, Enlarged and Revised, London, 1831.

⁵ *Te Mata No Te Parau Na Te Atua*. [Eimeo, 1817.]

The first sheet of St. Luke's Gospel⁶ was nearly printed when the ship *Active* arrived, on November 17, 1817, with six new missionaries from England. This raised the effective staff of the mission to sixteen. By this time the natives, throughout all the Society Islands had abandoned their idols and professed Christianity. This change, while essentially religious in character, amounted also to a political revolution since the political and religious systems of the natives had blended together in every custom and usage. Very naturally the Tahitians turned to the missionaries for guidance and help.

The missionaries divided into two groups, one remaining in the Windward Islands and the other going to the Leeward Islands, each opening new stations at desirable points. Within the next few months, three stations were opened on Tahiti itself — one on the site of the original at Matavai, one at Papara, and one at Papeete. With three stations on Tahiti, the burden on the two on Eimeo was greatly lessened and it was concluded that one was sufficient. Therefore, in June, 1818, William Ellis and three others, with their families, abandoned the station at Afareaitu and sailed for Huahine, the largest island in the Windward Group.

Ellis took the printing press with him to Huahine. This did not meet with the approval of the older missionaries, who considered Huahine an out-of-the-way island. However well the missionaries, in their zeal for their work, agreed on fundamental questions, they often showed very human qualities in differing strongly as to details and did not hesitate to indulge in criticisms of one another's actions. There was much justice in their contention that the proper place for the press was on Tahiti. The king, also, added his protest. But Ellis felt the press had been entrusted to his care. He also pointed out that another press was expected shortly from England.

⁶ *Te Evanelia Na Luka, Iritihia Ei Parau Tahiti*. Moorea, Neneihia I Te Nenei Raa No Te Missionaries, 1818.

In this he proved correct as on July 8, 1818, less than a month after he left for Huahine, not one but two printing presses, together with type, ink and paper, were received. Both the new presses were in much better condition than the first; for which reason it was decided that one should be set up on Tahiti and the other sent to Ellis on Huahine and the original press used, as necessity should arise, for repairs to the new ones. The press assigned to Tahiti was sent to Robert Bourne at Papeete, which place the missionaries called Wilk's Harbor. The first book to be printed at the Windward Mission Press appears to have been an hymnal, which bears the date of 1818.⁷

In the following year, 1819, a new station, the fourth on Tahiti, was opened at Puna-auia, which the missionaries called Burder's Point, by David Darling. He was soon joined by Robert Bourne and the equipment of the Windward Mission Press was moved to the new station. The earliest imprint at Burder's Point is an edition of the Gospel of St. Matthew, dated 1820.⁸

Meanwhile William Ellis had been busy with his press, which had been put into operation again as soon as possible. The first book printed on Huahine was an hymnal, whose composition was begun before Ellis left Afareaitu.⁹ This was followed by a new issue of the spelling book, the Gospel of St. Matthew,¹⁰ and an elementary arithmetic.¹¹ In December, 1822, Ellis left Huahine to join the American mission in Hawaii and the press and station was left in the charge of Charles Barff.

In the same year, 1822, Robert Bourne moved from Burder's Point, on Tahiti, to the island of Tahaa, one of the Leeward

⁷ *Himene I Neia Ei Parau Tahiti*. Tahiti, Printed at the Windward Mission Press, 1818.

⁸ *Te Evanelia A Mataio, No Iesu Christ To Tatou Fatu; Iritihia Ei Parau Tahiti*. Tahiti, Printed at the Windward Mission Press, 1820.

⁹ *E Parau Himeni, Oia Te Parau Arue E Te Haamaitai I Te Atua*. Huahine, Neneihia I Te Nenei Raa A Te Missionaries, 1819.

¹⁰ *Te Evanelia A Mataio*. Huahine, Printed at the Mission Press, 1819.

¹¹ *Aritemeti: Oia Te Haapao Raa O Te Taio, E Te Faa Au Raa O Te Numera*. Huahine, Printed at the Mission Press, 1819.

Group, a few miles from Huahine. He left at Burder's Point the press he had been operating and was anxious, on learning that Ellis was not to return, to continue the work of the Leeward Mission Press. Between them, Barff and he arranged that one of the two presses on Huahine should be moved to the island of Tahaa. With this equipment, Bourne reprinted, in 1823, the Acts of the Apostles,¹² which had been first printed in the preceding year at Burder's Point. This was followed by several other parts of the Scriptures until, in 1827, the ill health of his wife forced him to close the station and return the printing equipment to Huahine.

While Bourne was operating the press on Tahaa, the production of the press left with Barff on Huahine was not large or regular. It consisted chiefly of reports, laws, and elementary books. After the departure of Bourne the work done by Barff assumed greater importance, although the Leeward Mission Press, on Huahine, never rivalled, in the importance and volume of its products, the Windward Mission Press, at Burder's Point, on Tahiti. Barff continued in charge of the station and press on Huahine until 1864, when he retired.

With the year 1833 the period covered by this study of the history of the missionary press in the Society Islands comes to an end. That year is the approximate beginning of a new period in the history of the missionary press in the islands of the Pacific. In 1832 the London Missionary Society sent to Huahine a new and modern iron printing press. On its arrival one of the old wooden-framed presses was sent to another group of islands, where it served as that group's pioneer press. Following this the printing press was rapidly introduced into nearly all the other island groups. In 1833 the work of translating the Scriptures into Tahitian, the first of the native languages in which it was attempted and whose version aided the translation into all the other Polynesian languages, was brought to completion. In that year,

¹² *Te Ohipa A Te Mau Aposetolo Na Iesu Christ Te Fatu; Iritihia Ei Parau Tahiti*. Tahaa, Printed at the Leeward Mission Press, 1823.

David Darling printed the Minor Prophets¹³ at Burder's Point and Charles Barff completed the Book of Isaiah at Huahine.¹⁴ Thereafter, except for a few reprintings, newly printed editions of the Scriptures in Tahitian were done in London.

¹³ *Te Mau Buka A Te Tahi Pae Peropheta Ra*. Tahiti, Printed at the Windward Mission Press, 1834.

¹⁴ *Te Buka A Te Peropheta Ra A Isaia: Iritihia Ei Parau Tahiti*. Huahine, Printed at the Mission Press, 1833.

A BIBLIOGRAPHICAL CURIOSITY

By CURT F. BÜHLER

IN his *Fifteenth Century English Books* (No. 127), E. Gordon Duff transcribed the last printed line in Caxton's edition of the *Doctrinal of Sapience* as:

Caxton me fieri fecii (*sic*)

In this instance, Duff's reading differs from the usual authorities,¹ all of whom agree that the last word is "fecit." Clearly "fecii" is incorrect and there seems to be no copy now known which preserves a genuine leaf containing this reading. The way in which the reading "fecii" appears to have crept into the standard bibliography of early English books is unusual and interesting.

Though no genuine leaf with the reading "fecii" appears to exist, there is however a copy which has the last leaf in facsimile and here without any possible question the last word is "fecii." This copy is the one now in the British Museum (IB 55129) and it seems likely that the reading in Duff was taken from this copy.

One might, of course, be content to let the matter rest with the simple observation that Duff should have consulted a genuine leaf rather than relying completely on the facsimile. On the other hand, one may equally well wonder why this reading is found in the facsimile since it was made by John Harris, whose work is considered to be among the very best of this nature. It seems somehow most unlikely that Harris would have deliberately altered his copy and changed an original "fecit" into an in-

¹ "Fecit" is the reading cited by Blades (No. 71), Sayle (No. 35), Hain (No. 14017), Dibdin-Spenceriana (No. 865), Dibdin-Ames (No. 35), *Gesamtkatalog* (No. 8625) and the John Rylands Catalogue (p. 30).

correct "fecii," so that a satisfactory explanation for this reading must be sought elsewhere. The answer, I believe, may be found in Plate XLVI in volume two of Blades' monumental *The Life and Typography of William Caxton*, London, 1861-63; the lower half of this plate reproduces the recto of the last leaf in the *Doctrinal of Sapience*. In this illustration it may be noted that there is a roughly outlined circle above the body and below the dot of the final i in "fecii" (for such the word *appears* to be here). I presume that this circle, as well as the several others on that page, is meant to represent a worm-hole. If this final i in Blades' facsimile is carefully examined, it will be seen that the upward stroke at the base of the letter is much heavier than in any other i and closely resembles that in the t; the t's, again, are barely crossed on the left-hand side of the letter, whereas the heavy stroke on the right side would, if we presume that the letter is a t, have been lost in the worm-hole. Without being able to see Blades' original, it is difficult to come to a definite conclusion, but the impression is created that the peccant i was caused by a worm which had consumed enough of the letter t to remove a portion of the upper part of the perpendicular stroke and the entire horizontal one, thereby producing a character not unlike the i.

In this manner, then, an original "fecit" was altered to read "fecii." If we presume that Harris used the same copy from which Blades made his reproduction² and that Harris simply facsimiled what he saw, namely "fecii," we have a satisfactory explanation for the reading in the British Museum facsimiled leaf.

It is hoped that the present paper will serve to point out the errors into which a bibliographer may fall by placing too much

² According to his notation, Blades made his reproduction from the copy now in the University Library, Cambridge (de Ricci, No. 2), though some time ago Mr. Stanford informed me that the last word now reads "fecit." I am obliged to Dr. Ohly of the Kommission für den Gesamtkatalog der Wiegendrucke for the information that no copy with the reading "fecii" is known to them. I have personally examined the copies in The Pierpont Morgan, Henry E. Huntington, Bodleian and John Rylands Libraries.

reliance on facsimiles; descriptions of early printed books should, wherever possible, be made from more than one copy. A hasty glance at any of the copies in The Pierpont Morgan Library, Henry E. Huntington Library, Bodleian Library or John Rylands Library would have shown, without question, that the reading of the last line in the *Doctrinal of Sapience* was:

Caxton me fieri fecit

CHRISTOPHER SMART'S "HYMNS FOR THE AMUSEMENT OF CHILDREN"

By ROBERT E. BRITTAIN

ONE of the least-known productions of Christopher Smart, the poet and translator who was associated with John Newbery in a number of ventures, is a little book called *Hymns for the Amusement of Children*. Although it has been unknown to or ignored by the poet's editors and critics, it is interesting from many points of view. Gray gives the following account of it:

Before 1775. — *Hymns for the Amusement of Children*. By Christopher Smart, M. A. Third Edition.

London: Printed for T. Carnan, at No. 65, in St. Paul's Church-yard. MDCCLXXV. Price 6d. (Bodleian) pp. 84.

The work consists of 39 Hymns on Faith, Hope, Charity, etc., with an illustration at the head of each.

Dedicated to H. R. H. Prince Frederick, Bishop of Osnaburg, whose portrait faces the title-page.

These Hymns have no connection with the "Hymns and Spiritual Songs" printed in Smart's Translation of the Psalms, 1765.

The "Third Edition" is in the Bodleian Library, and I know of no other copy of this or any earlier edition.

Not reprinted in any collection of Smart's Poems.¹

¹ G. J. Gray, *A Bibliography of the Writings of Christopher Smart, with Biographical References*, In: *Transactions of the Bibliographical Society*, vi, 299, London, 1903.

It is now possible to add to this information a reasonably accurate dating for the composition of the book, the exact date of first publication, and an account of an American edition likewise represented by an apparently unique copy.

On April 16, 1769, after being estranged from all his family for some dozen years, Smart wrote the following letter to his brother-in-law, Thomas Carnan, the step-son and successor of John Newbery:

Dear Sir/

Being informed first by M^r Leach & afterwards by Mess^{rs} Mason & Stenhewer that you have determined very benevolently in my favour, I think it incumbent on me to be thankful. Indeed if mercy be not shewn me somewhere or other I do not see how I can possibly escape a prison. I congratulate you therefore upon your kind resolution, as you may depend upon it, that it will not only be finally a great thing for yourself, but people even now will applaud your generosity and good nature. I desire my duty to M^{rs} Newbery and will wait on you or give you the meeting when and where you will please to name.

Yours most sincerely and affectionately

Christopher Smart.²

It is clear from this that Smart's poverty had induced Carnan to relent from Newbery's uncompromising attitude towards the ne'er-do-well, and the likeliest assumption is that he had offered to publish something. Smart had nothing ready at the moment, but it is possible that he had already begun to write the *Hymns for . . . Children*. His interest in verse for children had been shown in his *Parables of Our Lord . . . Done into Familiar Verse for Children*, which had been published early in 1768.

As he had feared, Smart was imprisoned for debt at some time after October, 1769,³ and there is good reason to believe that

² This letter is preserved in the Bodleian Library, *Original Letters*, Poets, vol. I., MS. Montagu d. I. (fol. 224).

³ He was still at large when Fanny Burney wrote in her diary, "Mr. Smart presented me with a rose this morning . . .," in an undated entry between entries for October 4 and November 13, 1769.

many of the little verses were composed in prison. In the first place, many of them contain very touching passages about prisons and the poor. Furthermore one of the poems, Hymn xxxii, was printed in the *Gentleman's Magazine* for September, 1779, as "By the late C. Smart, in the King's Bench." Smart died in the rules of the King's Bench prison on May 21, 1771.

In December, 1770, *Hymns for the Amusement of Children* was entered by Carnan in the Stationers' Register.⁴ It was announced as "this day . . . published" in the *Public Advertiser* for December 27, 1770.⁵ Smart therefore composed the *Hymns* during the last two years of his life, a good part of them during his imprisonment, and he presumably saw a copy of the pretty little book before his death.

Twenty years later the book found its way to America, and became the only one of the poet's productions to be reprinted here before the twentieth-century reprints of *A Song to David*. In the library of the American Antiquarian Society there is an apparently unique copy of the American edition,⁶ the title-page of which is as follows:

Hymns | for the | Amusement | of | Children. | By the Rev. [*sic!*] Christo-
pher Smart, M. A. | to which are added, | Watts's Divine Songs for Children. |
Philadelphia: | Printed by William Spotswood. | 1791.

⁴ Charles Welsh, *A Bookseller of the Last Century*.

⁵ I am indebted to the late Professor E. G. Ainsworth, Jr., of the University of Missouri, who found this advertisement and sent me a copy.

⁶ This is listed in Evans' *American Bibliography*, Chicago, 1929, a work which also lists the following:

Hymns for the Instruction and Amusement of Children. By the Rev. Christopher Smart, A. M. To which are added Watts's Divine Songs for Children. Embellished with a Number of Emblematical Engravings. Boston: Printed and sold by William Spotswood, No. 55, Marlborough-Street. 1795.

The late Dr. Evans wrote to me that he kept no record of the sources of his information, but he believed he had this entry from an advertisement, and that he considered it an error. Spotswood removed from Philadelphia to Boston, and Dr. Evans agreed that this "Boston edition of 1795" merely represented remainders from the Philadelphia printing which were advertised for sale in Boston. At any rate, if there was an edition in 1795 it seems to have disappeared entirely.

It is a 24mo., and contains iv + 92 pages. It has no dedication, but, like the Bodleian copy, is "embellished with cuts"—charming little medallions, one of which appears at the head of each of the thirty-nine poems.⁷

This collection is interesting from several points of view. Like most of Smart's later work, the book is very uneven. Some of the verses are quite mediocre; others are excellent. There are occasional flashes of Smart's mature power, but for the most part the poems are written with a graceful simplicity which is quite appropriate to their purpose. The most surprising thing about them is the way that Smart frequently manages to enter into a child's experience from a child's point of view.

As Smart's last work, *Hymns for the Amusement of Children* deserves the attention of students and of admirers of the produc-

⁷ In addition to the material announced on the title-page, this volume contains a curious "Appendix" inserted between the *Hymns* and the *Divine Songs*. It consists of twelve hymns and a versified Lord's Prayer. None of the hymns is signed, but I have been able to identify certain ones. No. 1 is Philip Doddridge's "Shine forth, eternal Source of Light"; No. 5 is "Our heavenly Father calls" by the same author. No. 12 is Addison's "The spacious firmament on high." No. 4 is "Great source of boundless power and grace" by Anne Steele; No. 10 is a poem of six stanzas, beginning "And is the gospel peace and love." Julian's *Dictionary of Hymnology* (p. 65) lists a hymn with this first line by Anne Steele which is said to be in seven stanzas. There is a seven-stanza hymn in Rippon's *Selection of Hymns* (No. 166) credited to "Dr. Steele." Stanzas 1, 2, 3, and 5 correspond to stanzas 1, 2, 3, and 4 of the hymn in our appendix. Stanzas 4, 6, 7 in Rippon are totally different from stanzas 5 and 6 in the appendix.

No. 8 in the appendix is a poem of five stanzas beginning "Father of light, conduct my feet." In Julian's *Dictionary* there is a brief article on Smart (p. 925) in which there are the following interesting remarks: "His *Poems* were published in 2 vols. in 1771. From that work 'Father of light conduct my feet' (*Divine Guidance*), and 'I sing of God the mighty source' (*God the Author of All*), have been taken." The date here given must be a misprint for "1791," the year of the Reading edition, for there was never any other two-volume edition of Smart's poems. But in the 1791 edition there is no poem entitled *Divine Guidance*, nor is there any poem beginning "Father of light conduct my feet." In fact, I have been unable to find such a poem anywhere attributed to Smart. *God the Author of All* ("I sing of God the mighty source") likewise does not appear anywhere as a hymn by Smart. It is possible that some one may at some time have made a hymn from a section of the *Song to David* (st. xviii begins "He sung of God — the mighty source"), but I have been unable to locate such a hymn. Furthermore, no part of *A Song to David* was printed in the 1791 edition. I find Julian's remarks completely unexplainable. I have likewise been unable to identify hymns nos. 2, 3, 6, 7, 9, 11, and the versified Lord's Prayer in the Appendix. There is no internal evidence to connect any of them with Smart.

tions of his more fortunate period. It is a rather charming addition to the lists of early books for children, and the scarcity of copies will recommend it to the attention of bibliophiles. Finally, the American edition offers an interesting bit of testimony to a modest reputation outside England which the poet had at the end of the eighteenth century.

THE papers by Messrs. Fuhrmann, Duniway and Silver were read at the Society's meetings held at The Grolier Club, New York, on December 27, 1940. Mr. Harding's paper was read at a meeting of the Society held in San Francisco on June 21, 1939. The papers by Messrs. Bühler and Brittain have not been presented orally at a meeting of the Society.

BIBLIOGRAPHICAL NOTES

Edited by ALEXANDER DAVIDSON, JR., FREDERICK E. GOFF, GERALD D. McDONALD, HOWARD S. MOTT, DAVID A. RANDALL, E. MILLICENT SOWERBY, LEWIS M. STARK AND EDWIN W. WILLOUGHBY.

Incunabula

EXPOSITION AUREA HYMNORUM. Seville, Johann Pegnitzer and Magnus Herbst. 15 September, 1500. 4°.

56 leaves. Sig.: a-g⁸ (a₁ and f₃ lacking). 44-45 lines of commentary. Type: 5+: 108G (text), 7:71G (comm.) *cf.* Haebler. Typ. Iberique, no. 92. Rubr.*y.* Dev. (Vindel. Escudos y Marcas, p. 12, no. 5).

Leaf 1 (title?), lacking. 2a, with sig. a ij: ¶Carmen est dimetrum iambicum archilochium | monocolon orthometrum. . . . | [4 lines] | (p³) Rimo dierum omniū | leaf b: creato^r poscimus) .i. petimus (te añ terminū lucis) .i. anteq³ de mūdo ex- | ends, 56b, col. 2, line 11: Secla per orbis. | ¶Explicit. | (under both columns): Aurea hymno^u3 expofitio vna cū textu accuratī | fime co^rrecta felici numie est explicita. Imp^zeffa | hispali p Joāné pegnicer de nurēberga 2 magnū | herbft de fils focios. Anno dñice icarnatiōis. M | d. die vero decima quinta mensis feptemb^ris. | ¶Vifū op^o et examinātū p Reurendos .d. dñm | ferdinādū d'la to^rre decanū hispaleñ. Et dñm Ro | do^ricū de fancta ella archidiaconum de Reyna. | (device, 49 x 37 mm.). *Maggs. Catalogue* 402 (1921), no. 703; *Kurz. Handbook der Iberischen Bildrucke* (1931), no. 141. *cf.* Haebler 256, the edition of 31 October, 1500.

The Maggs copy, cited by Kurz, bound in vellum; apparently the only known copy. Purchased by CSMH in March 1925.

Mead, H. R. *Incunabula in the Huntington Library*, 1937, no. 5116.

— HERMAN R. MEAD

GERSON, JOHANNES (1363-1429). *De passionibus animae*. [Paris, Gaspard Philippe, about 1500.] 8°.

20 leaves. Sig.: [a]-b⁸, c⁴. 33 lines. Type: 5:64G. Init. f, c? (29 x 27 mm., on 2b). Dev. 2. Rubr.*y.*

1a: De passionib⁹ aīe | [device] | 1b: ¶Tabula huius tractatus de passio | nibus anime A magistro Johanne | gerfon. Incipit feliciter. | 2a, line 19: ¶Confideratio. Vicefima fecūda. | ¶Finis tabule. | 2b: ¶Incipit tractatus notabilis de passionibus ani | me venerabilis viri Magiftri Jahannis gerfon. | (P⁹) Affionum feruoze3. effectū. 2 | origine cognoscere. pdest aīe | leaf b: pzehenfionē īmifit a rōne in fenfualitatē. Talis eī | ends 20 b, line 21: . . . Super excelsa | mea deducet me victoꝝ in pfalmis canentem. | Explicit tractatus notabilis. de passionib⁹ | aīe. Editus a magistro Johanne Gerfon cā | cellario parifienfi. necnon pꝛofeffoꝝe facre | theologie eximio. |

Bound in brown morocco.

GERSON, JOHANNES (1363-1429). De passionibus animae. [Paris, Gaspard Philippe, for Jean Petit, about 1500.] 8°.

Identically the same as the copy above, except Petit's device (*Haebler. Verlegermarken des Jean Petit*, no. IIIa), instead of Philippe's, occurs on 1a.

Bound in brown boards; with ex-libris of Charles Thomas-Stanford.

Both copies, apparently undescribed, are from the Thomas-Stanford collection. Purchased by CSMH in 1924 from Dr. Rosenbach.

Mead, H. R. *Incunabula in the Huntington Library*, 1937, no. 4707 and 4708.

— HERMAN R. MEAD

MASPARRAUTHA, STEPHANUS. Regulae gramaticales. Valencia [Nicolaus Spindeler]. 24 October 1498. 4°.

76 leaves. Sig.: a-i⁸, k⁴ (a₁ lacking). 31 lines. Type: 10:102 G, 12:132G. Init.:e, f, g, h, m. Rubr.: β.

Leaf 1 blank? 2a, with sig. a ij: (C⁶) Um nimia tradendi pꝛo. | lixitate in acq̃fitione modo24 pꝛo | uerbiādi retardari clericos vide | rē: methodū quēdā nō oīa f3 qd | am continētem (ad eo24 facilem | itroductioē3 pꝛib⁹ cōmot⁹ quo2 | ūda3 (commēt⁹ fu3 . . . 3a, with sig. a iij: (³) Primo q̃rīf qd ē grāmatica dico q̃grāma | tica est scīa gnara .i. puida recte loq̃ndi re | cte scribēdi. . . leaf b: a militib⁹ scutifferri. 2 si romāciū3 dat in paīā. 2 in | ends 76a: ¶Parētefis est interposita ozationi sententia du= | plici signata diafcole. vt (namq3 fateboꝝ enim) dum | megalathea tenebat. () | deo gratias. | Expliciunt. Note edite siue compilate: atq3 rursus: | per reuerendum magistꝛum in artibus graduatum | Stephanum de masparrautha nomine dictum | Fuerūt impꝛesse in vꝛbe ifigni valētie. Anno incar | nate deitatis. Millefimo. Quadꝛingētesimo. Nona | gefimo octauo die mercuris vicefima quarta: mēfis octobꝛis. | 76b blank.

Haebler 408(5); *Reichling* 1804; *Nachträge zu Hain* 216; *Vindel. Bibl. gráfica* 76; *Vindel. Manual del Bibl. Hisp.-Am.* 5:312; *Palau. Manual del librero Hisp.-Am.* 5:100. *Haebler* and *Nachträge zu Hain* take the title from the colophon. The only copy cited by the references formerly was in the possession of Ludwig Rosen-

thal. This copy is bound in green morocco, blind tooled; and apparently is the Rosenthal copy. Purchased by CSmH in February, 1926.

Mead, H. R. *Incunabula in the Huntington Library*, 1937, no. 5090.

— HERMAN R. MEAD

Continental Books, 1501-

The American Antiquarian Society has come into the possession of what appears to be a Latin commentary on Luther, with preface signed by Timotheus Kirchnerus, dated December 29, 1565. The volume is a small folio of 858 pages, probably the *Latin Thesaurus* mentioned as printed at Frankfort in 1565. We have been unable to locate a copy in order to obtain a photostat or transcript of the title-page. Does one exist in America?

— CLIFFORD K. SHIPTON

English Books, 1475-1800

COWLEY, ABRAHAM (1618-1667). Verses, lately written upon several occasions, by Abraham Cowley. London, for Henry Herringham, 1663. Sm. 8°.

2 p. l., 58 (i.e. 60) p. (page nos. 27-28 repeated).

Signatures: [A], B-D⁸.

The Bridgewater copy.

Another issue, differing only in the title which reads: Verses, written upon several occasions, by Abraham Cowley.

The Chew copy.

The second reading is that generally cited; in neither copy is the title-page a cancel, and the change quite likely was made after a few copies were printed. Grosart in his edition of *Cowley's Works* (1881), v. 1, p. [152] reproduces a title reading like the first one above, which he designates as a 12mo.

Copies in CSmH.

— HERMAN R. MEAD

D'AVENANT, SIR WILLIAM (1608-1668). Gondibert: an heroick poem; written by Sir William D'Avenant. [printer's device.] London, Printed by John Holden, 1651. Sm. 8°.

2 p. l., 64, [4], 243 [5]. p.

Signatures: A¹; 2ll. unsigned. A²⁻⁸, B-V⁸.

Hoe copy, old English black morocco, gilt. In this copy A1 is blank and genuine;

title, recto of unsigned 1; blank, verso of unsigned 1 and recto of unsigned 2; Errata, verso of unsigned 2; The Authour's Preface to . . . Mr Hobs, p. 1-51; The Answer of Mr. Hobbes, p. 52-64; To Sr Will. D'Avenant [signed] Ed. Waller. [2] p.; To Sr Wil. D' Avenant [signed] Ab. Cowley. [2] p.; text of Gondibert, p. 1-243, ending with 4 lines and *FINIS*. p. 243 (recto of V7), followed on the same page by "POST-SCRIPT To the Reader," which ends on verso of V7; the text of V7 verso is duplicated on V8 recto; V8 verso blank.

The Halsey copy (red morocco, by Bedford) is the same as above, except it lacks the blank leaf A, and the two unsigned leaves are folded differently so that the "Errata" precedes and faces the title. In both copies the unsigned leaves have watermarks at the lower, inner edges; and leaves 2-3, 6-7 of quires A and V have their watermarks in their proper location.

The Grolier Club. *Catalogue, Wither to Prior* (1905), v. 1, p. 213, no. 246, describes a copy, and gives the collation: A-V, in eights, with title on A1 (verso blank), and Errata on V8 (verso blank).

— HERMAN R. MEAD

FIELDING, HENRY (1707-1754). *The Coffee-House Politician; Or, The Justice Caught in his own Trap. A Comedy. As it is Acted at the Theatre-Royal in Lincolns-Inn-Fields. Written by Mr. Fielding.* London: for J. Watts, MDCCXXX. Sm. 8°.

4 p. l., 78 p. Signatures: A⁴, B-E⁸, F⁷.

The Kemble-Devonshire copy: A2 has PROLOGUE. Spoken by Mr. PAGET.; [A3] has EPILOGUE. Spoken by Mrs. MVLLART.; [A4] recto has ads dated: June 23, 1730; [A4] verso, the *Dramatis Personae* begin with: Worthy, Mr. *Paget*.; B-[C7], p. [1]-78, the text, with caption: Rape upon Rape; Or, The Justice Caught in his own Trap.

This was originally published anonymously the same year with title: Rape upon Rape; Or, The Justice Caught in his own Trap. A Comedy. As it is Acted at the Theatre in the Hay-Market. London: for J. Wats. MDCCXXX.

The Kemble-Devonshire copy collates like the copy above, with the same Prologue, Epilogue, ads, and *Dramatis Personae*.

The Hoe copy of "The Coffee-House Politician" has the same collation by pagination and signatures, but it is a later issue: the ads on [A4] recto are different and are dated: November 27, 1730; the PROLOGUE. Spoken by Mr. MILWARD. has the same text as in the copies above; the EPILOGUE. Spoken by Mrs. YOVNGER. differs considerably in the text; the names in the *Dramatis Personae* are all different; beginning with: Worthy, Mr. *Milward*.; and there is no conventional ornament and catchword at the bottom of [A4] verso.

— HERMAN R. MEAD

QUARLES, FRANCIS (1592-1644). *Solomons Recantation, Entitled Ecclesiastes, Paraphrased. With a Soliloquie or Meditation upon every Chapter*. . . London, Printed by M. F. for Richard Royfton, 1645. Sm. 4°.

4 p. l., 62, [2] p., front. (port.)

There were two editions of 1645, with the same title and collation; the Bridgewater copy is probably the earlier. The following variant readings will help to distinguish the two editions, the Bridgewater readings are followed by those of the Lefferts-Chew copy:

page	1, caption,	INTITULED	<i>Intituled</i>
	9, line 12	foules Vexation.	fouls Vexation.
	17, last line	all reliefe:	all relief:
	25, line 22	the vaile,	the vale,
	33, 3	always turning	alwayes turning
	41, 1	reigns here	raigns here
	49, 18	proclaime	proclaim

In *Quarles' Works*, edited by Grosart, v. 2 (1880), p. [171]-189, the title and text of *Solomons Recantation*, 1645, are reproduced with the readings like those of the Bridgewater copy. The Grolier Club. *Catalogue, Wither to Prior*. v. 3 (1905), p. 25 describes a 1645 edition. An edition was published in 1648 with "The Third Edition." on the title-page; this collates like the 1645 edition, with readings like those of the Lefferts-Chew copy given above.

— HERMAN R. MEAD

Americana

BLANCHARD, JEAN PIERRE (1735-1809). *Journal de ma quarante-cinquieme ascension, la premiere faite en Amérique le 9. janvier, 1793.* [2 lines in Latin] *Philadelphie, de l'Imprimerie de Charles Cist*, M,DCC,XIII.

Mr. John Fleming of the Rosenbach Company requested the location of this French work. It is located in MH and a microfilm of the MH copy is in the private library of Mr. Bowe, New York City.

See *The Papers of the Bibliographical Society*, Vol. 34, No. 4, p. 358.

— FORREST BOWE

CONGRESS OF THE UNITED STATES. Acts | Passed at a | Congress | Of the
| United States | Of | America, | Begun and held at the city of New-York, |
On *Wednesday* the *fourth* of *March*, | In the year M,DCC,LXXXIX. | And
of the | Independence of the United States, | The thirteenth. | Being the
acts passed at the first session of the first Congress of the United States, |
To wit, New-Hampshire, Massachusetts, Connecticut, New-York, New-
Jersey, Pennsylvania, | Delaware, Maryland, Virginia, South-Carolina,

and Georgia; which eleven states | Respectively ratified the constitution of government for the United States, | Proposed by the Federal Convention, held in Philadelphia, on the seven- | tenth of September, one thousand seven hundred and eighty-seven. | [long double rule] | *New-York*: | Printed by Francis Childs and John Swaine, | Printers to the United States. |

[Collation:] folio; [A-] Dd in twos: D unsigned, blank AA₂ follows Dd₂ as a wrap-around.

[Pagination:] [i-] xiv, [15-94], [xcv-cvi]; [ii, iv, cvi] blank. [i] title-page as given above, [ii] blank, [iii] resolution to publish the "Acts," [iv] blank, [v-]xiv Constitution of the United States, [15-] 93 text of "Acts," [94] Table of Contents, [xcv-] cv Index, [cvi] blank.

[Remarks:] a trimmed copy in an original binding measures 11¹/₈ by 7⁷/₈ inches. The paper is watermarked variously, most sheets bearing two watermarks, viz. the initials "S W L" and a neat crowned bell, "S W L" and a large circular watermark of a seated female figure bearing an olive branch in her right hand and a spear in her left, beside her a shield bearing a plain cross, the whole enclosed within circular fillets, surmounted by a crown and with a bell pendant [a few details of the figure are imperfect], the initials "G R" and a large circular watermark similar to the preceding, but perfect in every respect and without the pendant bell. One group of sheets bears only one watermark, a small indecipherable design (rather like a map of a river) surmounting the single word "Brandywine."

The bibliography of the "Acts" of the First Congress of the United States is not clear. I submit this detailed collation in the hope that it may lead others to make similar contributions to this subject.

See *Sabin* 15493, *Evans* 22189 *et al.*

— COLTON STORM

JEFFERSON, THOMAS (1743-1826). *Observations sur la Virginie*, Par M. J * * * . . . Paris, 1786.

Sabin 35895 calls for a map and makes no mention of errata leaves. I don't believe all copies of the book were issued with a map, and there are at least two different errata lists. Of the two copies at the University of Virginia, the earlier one seems to me to be:

ViU (McGregor) No map. 3 pages (2 leaves) of errata.

The later one:

ViU (Byrd. With the Neele map. 1 page (1 leaf) of errata. The priority of the longer list of errata rests on manuscript corrections in the sheets of the Byrd copy and on the fact that there is no duplication between the errata lists. The McGregor copy, entirely uncut and in original wrappers, gives no evidence of ever having had a map in it.

— JOHN C. WYLLIE

[JODRELL, RICHARD PAUL] (1745-1831). The Knight and Friars, an historical tale. [rule] Risum teneatis! Hor. [rule] State of New-York. New York: Printed, Published and Sold at the Printing-Office, No. 25, Water-Street. M,DCC,LXXX,VI. pp. 16 (1-5 unnumbered), A-D² (A-B unsigned).

Reprinted from the English edition: London: Dodsley, 1785. *Sabin* 97377 erroneously follows *Evans* 20035 in ascribing the book to St. George Tucker. Evidence of Jodrell's authorship is in the book itself, p. 3. See also the *Dictionary of National Biography* article on Jodrell. The Union Catalogue at the LC records a copy of the London edition at Harvard, but has (1939) no record of the American imprint. The only copy I have seen belongs to Mr. James Lewis Hook, Bala Cynwyd, Pennsylvania.

— JOHN C. WYLLIE

KEACH, BENJAMIN (1640-1704). Instructions for Children: | Or, the | Child's & Youth's Delight, | Teaching | An easie way to Spell & Read | True English. | Containing the | Father's Godly Advice; | Directing Parents in a Right and | Spiritual manner to Educate their | Children. | With a Christian Catechism, where- | in all the chief Principles of True Chri- | stianity are clearly opened. | Together with many other things | both Pleasant and Useful for the Edu- | cation of Children. | Written by Benj. Keach. | Printed and Sold by Will. Bradford | at the Bible in New-York, 1695. |

An unrecorded New York imprint. There is a copy in MWA lacking pages 13 and 14 and ending with page 152. It is interesting to note that this copy has four end leaves, both at front and back, which are cut from George Keith's *Truth Advanced* [New York 1694]. Can other copies be located?

— CLARENCE S. BRIGHAM

[LAVOISIER, ANTOINE LAURENT] (1743-1794). The art of manufacturing alkaline salts and potashes, published by order of His most Christian Majesty, and approved by the Royal Academy of Sciences. Tr. from the French by Charles Williamos[!] . . . [Philadelphia, 1820?]. Pp. vi, 50. 3 folding plates, tables.

Located in DLC and MB. This scarce pamphlet is given anonymously in both DLC and MB. Samples from the DLC copy compared with a work given anonymously in the Bibliothèque Nationale of Paris under the title *L'art de fabriquer le salin et la potasse, publié par ordre du Roi* . . . Paris, De l'Imprimerie Royale, 1779, shows that the work is a translation. A work of similar title and the same text, published at Paris in An II [1794?], is attributed to A. L. Lavoisier (cf. Bibliothèque Nationale).

— FORREST B. BOWE

PRINCE, THOMAS (1687-1758). The Case of Heman Considered. In a Sermon on Psal. LXXXVIII. 15. I am afflicted and ready to die, from my Youth up: While I suffer Thy Terrors, I am distracted. Occasioned By the Death of Mr. Edward Bromfield, Merchant of Boston, in New-England. April 10, 1756. Æt. 61. By Thomas Prince, A.M. And Pastor of the South Church. *Boston: Printed and Sold by S. Kneeland, in Queen-Street. 1756.*

One of seven copies so far seen has added on the last page:

"P.S. He married the youngest Daughter of Mr. John Coney of this Town, by whom he left surviving four sons and four Daughters."

This paragraph was inserted at the end of an obituary notice "From the Boston Gazette, of April 19, 1756. By another Hand." Four lines of "Corrections" which had followed the Notice, below the middle of the page, were dropped to admit the new matter.

The pamphlet was printed in fours, with a half-sheet at the end, so that only the last four pages, containing the obituary notice, need have been reprinted, doubtless to satisfy Mrs. Bromfield's criticism on the omission of any reference to herself or her children.

See *Sabin* 65580.

— GEORGE P. WINSHIP

The Provisions Made by the Treaties of Utrecht, etc., for Separating Spain Forever from France and Preventing France from Enjoying Exclusive Commerce with the Spanish Domminions in America. . . . *London, 1762.*

William Bollan in a letter to Edmund Trowbridge, London, April 18, 1763, states that he wrote this pamphlet during the peace negotiations of 1762.

See *Sabin* 66396.

— ALLYN B. FORBES

QUESNAY DE BEAUREPAIRE, ALEXANDRE MARIE, (fl. 1780). *Mémoire et Prospectus, concernant l'Académie des Sciences et Beaux Arts des États-Unis de l'Amérique, Établie à Richemond . . . Paris, 1788.*

This pamphlet is known in four states.

The first state bears the title *Mémoire et Prospectus* as given by *Sabin* 67128 (LC Card 8-94*) and comprises seven preliminary leaves and fifty-two pages. There are copies in LC, MHi, and the *Richmond News Leader* for January 11, 1924, reported a copy in the possession of Mr. J. H. Whitty of Richmond.

The second state bears the title *Mémoire, Statuts et Prospectus* (LC Card 8-93*), and comprises four preliminary leaves, pages numbered (5)-114 and one leaf.

The flower device has been changed to a thistle-like affair. There is a copy in LC in contemporary binding with the arms of Louis XVI on the front cover.

The third state is in every way identical with the second except that on the title page after the words *Capitale de la Virginie* have been added the words *Présenté au Roi*. This title page has been reproduced several times. It was this state that was used for Roswell Page's translation. There is a copy in V.

The fourth and final state comprises four preliminary leaves, pages numbered (5)-118 and one leaf. This bears an *Avis* on the verso of the front cover; the flower device has been changed again; and the *Présenté au Roi* of the third state has been changed to *Présenté à Leurs Majestés et à la Famille Royale*. This is *Sabin* 67129. There are copies in ViU and MdBP.

It is evident that *présenté* does not mean dedicated but simply that the book was presented to the people in question. The first state was more or less of a proof copy. The second, with no *présenté* was presented to Louis XVI in October of 1788. Immediately a new title-page was struck off proclaiming the fact: *Présenté au Roi*. Later, after it had been presented as well to the rest of the royal family and some additions were to be made, the fourth state appeared.

See *Sabin* 67128 and 67129.

— JOHN C. WYLLIE

Who Shall Be Governor, Strong or Sullivan? Or the Sham-Patriot Unmasked . . . N.P., 1806.

This is a reprint of Ezra Sampson's (1749-1823) *The Sham-Patriot Unmasked* which first appeared serially in the Hudson (N.Y.) *Balance* in 1801. It appeared separately at least four times from 1802 to 1805 and then appeared as above probably in Boston as a piece of campaign literature for the Strong-Sullivan campaign of 1806.

See *Sabin* 103846.

— ELIZABETH B. STEERE

Modern Literature

SAUNDERS (MARGARET), MARSHALL. (1861-). Beautiful Joe. Philadelphia, 1894.

It now appears possible to demonstrate that substantial revisions of the collation as given in Jacob Blanck's *Peter Parley to Penrod* must be made for this title. In justice to the amiable Mr. Blanck, it should be stated that the present findings not only have his critical blessing, but that he also finally *read* every page of the book, with a consequent discovery of several bibliographical features now incorporated in this survey. The sacrifices that one makes for one's profession . . . !

Not less than fifteen copies of this book with 1894 title-pages have been examined or reported on, together with several additional copies of early reprints. As would naturally be expected, some of these proved to be duplications; however, enough

variations were found in the group to enable construction of a good-sized chart which, after some rearrangement of the components, reveals the following progression of features.

Page	Line	Earliest State	Later States
title	8	Editor of . . .	Of . . .
46	11	Perfect type in last two words, "his sister."	Broken
215		Signature O present	Absent
3		Dedication in 5 lines	8 lines
167	running head	R in first MR. present	Absent
139	last	Second t in "that" present	Absent
[4]		Humane Society note present	Absent
84	1	but how in . . .	it isn't good . . .
frontispiece		Portrait of <i>Joe</i> . Captioned "My name is . . ."	As described in <i>Peter Parley to Penrod</i> .

Title-page appears with various imprints. The LC deposit copy, having all the above features of earliest state, has the imprint of American Baptist Publication Society; however, the same imprint appears on obviously later states as well, and to date the deposit copy remains the only one examined which has that imprint together with all features of earliest state. The imprint of Charles H. Banes appears on two examined copies of earliest state and on several copies of later states. It may therefore definitely be concluded that the imprint alone is of no particular bibliographical significance.

Examination of additional copies may very likely make possible certain minor adjustments in the vertical arrangement of the foregoing table, though without affecting the major conclusions.

— R. F. ROBERTS

SPYRI, JOHANNA (1827-1901). Heidi, her years of wandering and learning. A Story for Children, and those who love children, translated from the German of Johanna Spyri by Louise Brooks. 2 vols. in one. Boston, 1884.

I have copies with the imprints of *Platt and Peek, Cupples* and *De Wolfe & Fiske*. Can anyone tell me the sequence of these publications?

Also, can anyone advise me who Louise Brooks was; where she lived; is she still living?

— GUSTINE COURSON WEAVER

REVIEWS

FUHRMANN, OTTO W. *Gutenberg and the Strasbourg Documents of 1439. An Interpretation By Otto W. Fuhrmann. To which has been Appended The Text of the Documents in the Original Alsatian, The French of Laborde, and Modern German and English Translations. Sketches by Fritz Kredel.* Press of the Woolly Whale, New York, 1940. x, [2], 260, [1] pp. Illus., facsimis. 10 x 7½ inches. \$7.50.

Whether or not Johann Gutenberg was the real inventor of printing is a provocative and perplexing question. It is a question which will probably always remain at least partially unanswered, for it is not likely at this late date that further study will shed additional light on this fascinating and engrossing subject which will require a re-evaluation of the basic facts. Certain it is, however, that on the basis of the existing evidence Johann Gutenberg has a stronger case for the honor due the inventor of printing than any other contender for that honor.

In addition to the eight statements about the inventor which were printed during the century in which Gutenberg lived, we know of certain documents which relate to Gutenberg. Most important of these are the so-called Strasbourg documents which Professor Fuhrmann has made the subject of intensive study in his interesting and informative book.

Something over two hundred years ago, stimulated in part by the tercentenary celebration of the invention of printing then in progress, German scholars and archivists furiously started a search of old records for any evidence to support the Gutenberg claim against that of the Dutchman Coster. The search was fruitful since it brought to light the records of a law suit between Gutenberg and the heirs of one of his partners, by name Andrew Dritzehen.

In essence the law suit was concerned with the claim of Andrew's two brothers, George and Nicholas, who alleged that as their deceased brother had invested a large part of his property in an enterprise conducted by Gutenberg in partnership with others, they as his heirs ought either to be admitted to the partnership in their brother's place or else to be reimbursed for the amount of the money invested by their brother.

Twenty-six witnesses testified on behalf of the Dritzehen brothers; fourteen, on Gutenberg's behalf. The testimony of thirteen of the Dritzehen witnesses was brought to light while only the testimony of three of the

witnesses who testified on Gutenberg's behalf was uncovered. Just who discovered these interesting documents Professor Fuhrmann does not make clear, and it is unfortunate that he credits the discovery of these testimonies in 1745 both to Johann Heinrich Barth and to Jacob Wencker, a confusion which serves only further to complicate a subject already complex.

The record of the disposition of the case by the Council in Gutenberg's favor had been found a few years earlier, presumably about 1740, by Jacob Wencker. These three documents — the testimonies of the thirteen Dritzehen witnesses, the testimonies of Gutenberg's three witnesses, and the disposition of the case by the Council — comprise the Strasbourg documents which Professor Fuhrmann has carefully reproduced from available sources.

Unfortunately none of these documents is extant. Successive fires in 1793 and in 1870 destroyed first the Council's disposition of the case and later the several testimonies just described. Consequently for our knowledge of this important source material we have to rely upon secondary sources. The transcripts of the documents in the original Alsatian appeared first in Johannes Schöpfli's *Vindiciae Typographicae*, published at Strasbourg in 1760. Although Schöpfli undertook a Latin translation of the documents which is now considered to be quite inaccurate, his book is the most reliable source we have.

In 1840 Count Léon de Laborde published his *Débuts de L'Imprimerie à Strasbourg*. This book is valuable for us since it contains lithographic facsimiles of several of the important passages in the testimonies of the law suit, then extant, which is the nearest thing we have to the original documents.

Using Schöpfli and Laborde as basis Professor Fuhrmann has reproduced the full text of the Strasbourg Documents of 1439 together with Laborde's facsimiles. The text of the documents, presented in four versions, is arranged in parallel columns in polyglot fashion and ought to satisfy even the most exacting reader. The original Alsatian is taken from Schöpfli's transcript; the French version is a reprint of Laborde's translation; and the modern English and German versions are the work of the author.

Professor Fuhrmann's careful notes on each version provide an invaluable aid to the correct interpretation of the many and varied versions which exist. The present study appears to be the definitive work on the text of the documents, and scholars of the Gutenberg controversy from now on will find this a necessary reference book.

The significance of these documents lies in their veiled references to a process which may be identified with the printing art. The most important references of this sort are found in the testimony of Annie Schultheiss, John Schultheiss, her husband, Conrad Sahspach, Lawrence Beildeck, Father Anthony Heilmann, and John Dünne. If these allusions to printing are authentic (and it seems only fair to state that these documents have been considered by some to be forgeries), then it is apparent that Gutenberg and his partners were busy with the details of the processes of printing as early as 1439 in Strasbourg. This is the conclusion that Professor Fuhrmann reaches although he is careful to point out that the process was perfected at Mainz a few years later.

Since the documents cannot be examined today, the question as to their genuineness can never be satisfactorily answered. Yet it seems to me that the very vagueness of the references to printing found in the documents lends support to their validity, for had they been forgeries would not the references have been more explicit?

Professor Fuhrmann has prefaced his transcripts, his translations, and his interpretations of the documents with a highly readable account of the invention itself. His clear and concise essay on the obstacles which the inventor of printing had to overcome convince one more than ever of the magnitude of the invention itself. The author has also added a short description of the early years and background of Johann Gutenberg. Around the few known facts of Gutenberg's early life he has built a fascinating story which may as well be true as not.

Obviously Professor Fuhrmann is a staunch Gutenberg supporter, and we accept much that he has to say about Gutenberg with a careful regard for his enthusiasm, but we should like a little more evidence before stating as Professor Fuhrmann does that the Psalter of 1457 "while bearing the names of Fust and Schoeffer was Gutenberg's in conception and preparation, initials and all."

An extensive bibliography, which frequently contains interesting notes regarding the contents of the work cited, and an index make up the few remaining pages of the volume which we learn from the colophon was hand set in Bruce Rogers' 14-point Centaur by George W. Van Vechten, Jr. The press work was handled by George C. Montgomery. The well-known illustration of Strasbourg from the *Nuremberg Chronicle* of 1493 provides novel end papers which lend a pleasant air to the book which is both well printed and handsomely bound.

—FREDERICK R. GOFF.

BROWN, LLOYD A. *Notes on the Care & Cataloguing of Old Maps* By Lloyd A. Brown. . . Hawthorn House, Windham: Connecticut, 1940. 110 p. Colored front., ornaments, facsimis. $7\frac{1}{4} \times 4\frac{1}{4}$ inches. \$2.50.

Anyone who supposes that a curator of maps deals with practically the same problems as those which confront a curator of books will be disillusioned by reading Mr. Lloyd A. Brown's manual on the handling of old maps. In the matters of storage and equipment, classification, cataloguing and nomenclature, maps seem to occupy a position somewhere between those of books and prints, and people concerned with the care and cataloguing of maps have borrowed from the techniques developed in the care and cataloguing of both books and prints.

The author has found from his experience with old maps in the William L. Clements Library that it is well to keep each map in a separate folder; that it is better to file them in shallow drawers than in vertical filing cabinets; and that in general the best classification for maps is by geographical or political areas (rather than by types of maps, such as road maps, charts, topographical surveys, etc.). One exception to the recommended classification is that archival maps may be filed more satisfactorily with documents to which they refer. The author's suggestion that one should "not hesitate to assign a class heading that seems a little unorthodox" reminds one that the surface of our planet is far from fixed and least of all in respect to political boundaries.

The names of individuals, firms and institutions on maps may include among others cartographers, surveyors, copyists, engravers, printers, publishers and sellers. Mr. Brown recommends that in cataloguing, maps should be entered under cartographers when known, and otherwise under titles or subjects. He is inclined to believe that in general it is more difficult to determine who were the cartographers of maps than to find out the names of the authors of books.

Scales, projections and insets are discussed, as well as the absorbing problem of assigning dates to undated or misdated maps. Too much should not be expected from tables of contents in early atlases, the geographic atlas being "probably the most unorthodox type of publication known to the book world." Before 1800 it was quite common to bind up maps from many sources into atlases without much concern that all copies of an issue be identical in contents or that contents conform with tables.

Map nomenclature, partly because it has taken terms used both for books and prints, seems to be in a somewhat unsatisfactory condition. The

author states that "the term *impression* can refer to only one specimen." This statement may be made, I believe, for engravings in general, and it is to be regretted then that the term *impression* is frequently and correctly used to refer to all copies of a book printed at one time or in one printing, and not to single copies. A little further on it is stated that an *edition* may be defined "as the number of copies of a map which were printed by the same man, or men, at a given place and under a given publication date." In the world of books an *edition* is commonly regarded as comprising, I believe, all the copies printed from one setting of type (or plates made from that setting), so that an *edition* of a book may comprise several printings or issues published at different dates and places. It is unfortunate that the terms *impression* and *edition* may mean certain things as applied to maps and others as applied to books.

The manual devotes twenty pages to a list of references; sample catalogue cards, ornaments and parts of old maps are attractively reproduced in collotype. The book is clearly and interestingly written, and presents wisdom and map lore evidently gained from long experience. At the head of his Introduction the author quotes from Joseph Baker Davis: "Young man, when theory and practice differ, use your horse sense." As far as maps are concerned Mr. Brown obviously has a great deal of good sense.

It is a happy circumstance that the book is printed and published by Mr. Edmund Thompson of Hawthorn House, who is not only interested in maps but is also an excellent designer of books.

G. L. M.